

Previous references.

1896

~~191~~

(Forest)

File No. 29496.

Serial Nos. 1-12

Later references.

N-2-62-96

GENERAL AND REVENUE SECRETARIAT.

Serial Nos. 1-12

Major ~~Part B.~~ for December 1897

SUBJECT

Forest Administration Report for 1895-96

1. To the Conservator of Forests in Mysore

No. 4999 D/ 3-12-96

Requests that he will be so good as to submit as early as possible the Forest Administration Report for 1895-96 which is long overdue

From the Conservator of Forests in Mysore

No. 2059 D/ 16-12-96

176

It will be get printed and four

" be submitted to Government

at Supt. Govt Press

12-96

Conservator and

the Supl. Govt. Press to print the same. No. of
copies sending the final proofs to Conservator
of Forests for approval

Sl. 4. From the Conservator of Forests in Mysore

No. 3821 Df. 7-4-97

283

Submits six copies of the progress report of
Forest Administration in the Mysore State.

Sl. 5 To the Conservator of Forests in Mysore

No. 1085 Df. 15-6-97

No. 29-96

Requests that he will be so good & as to forward
to this office 2 copies of his Notes of Inspection
for December 95 and Jan. and Feb. 1896.

Sl. 6. From the Conservator of Forests in Mysore

No. 5284 Df. 24-6-97

369

Submits copies of Inspection Memos (6 sets)
for the information of Government

Sl. 7. To the Commr of Hds. (2) Dy. Commr of Districts (3)
Khadda Supl. in Mysore (4) Hds. of other Depts.

No. 833-66 Df. 20-7-97

No. 29-96

Reviews the report in the Administration
of Forests for the year 1895-96.

Sl. 8 From the Conservator of Forests in Mysore

No. 866 Df. 9-8-97

46

Submits 6 copies of Inspection Notes of Mysore
District.

Sl. 9. To the Conservator of Forests in Mysore

No. 2440 Df. 31-8-97

No. 29-96

Forwards fifty copies of the review of the Forest
Administration Report of Mysore for 1895-96 for
being ~~sent~~ posted with the copies of the
reports required for distribution among
the Forest officers.

Sl. 10. From the Conservator of Forests

No. 1449 Df. 8-9-97

74

Forwards 36 copies of the
Administration Report

SECTION 71
 FILE NO. 29 of 96
 SERIAL No. 1

1896.

From

The Secretary to the Govt. of Mysore.

Rev. & Gen. Departments. ①

To The Conservator of Forests
 in Mysore

Dated 3-12-96

Despatched 3

Received ✓

General No. 4999

H.F. No. 29-96
 Enclosure No.

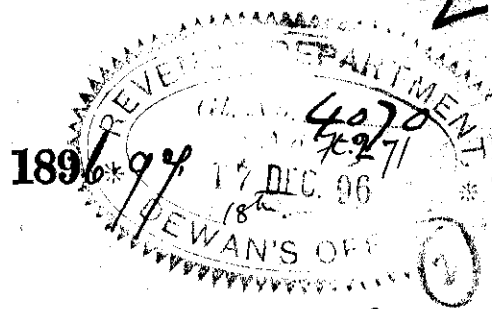
Has the honor to request
 of Forests
 that the Conservator will
 be so good as to submit ^{a copy of} the
 Forest Administration
 Report for the year 1895-96
 which
 as it is long overdue.

By Order

for Secretary.

83
 3/12/96

SECTION 71 Gen. 31.]
 New FILE 712-9629 of 96
 SERIAL No. 2 From



Sub^d for orders.

The Conservator of Forests
in Mysore.

These reports were
thereto ~~sent~~ ^{subd} to Govt
in manuscript. The
report and the review thereon
used to be printed afterwards.

To The Secretary to the Govt. of
Mysore, Genl. & Rev. Dep^ts.

Dated } 16th December 1896.
Despatched

Received

General No. 2059
No. 176

Enclosure No.

His docket No. 4999
St. H. 29-96
dated 3rd Instant, calling for
the submission of Provincial
Forest Administration Reports
for 1895-96.

It is that the Report will
be got printed and four
incheased copies will be
submitted to Government
for review and orders.

71
217/12

23/12/96

Subd of Mysore

The course suggested by the
Conservator is unobjectionable

yes may be
approved - 24/12/96
do coll 25/12/96

that has done
the (and) comm
Review of the
paper is a report
of the Report

AT

(1) Draft
(2) But was the query 24/12/96
25/12/96

(1) Draft subd.
2) Both the Insp. Genl. of Police & the Conservator's
offices are located in the same
building in Fort. The Conservator's Office must
have recd. information from the P. O. Office
25/12

No. 2059
176

Office of the Conservator of Forests
in Mysore.

Dated, Bangalore, 16th December 1896.
Sir,

The Conservator of Forests
in Mysore.

To,

The Secretary to the Government
of Mysore.

General & Revenue Departments

Sir,

With reference to your docket No.
4999, dated 3rd Instant, calling for
St. H. 27-96, the submission of the Provincial Forest
Administration Report for 1895-96, I have
the honor to state that in accordance
with Government Proceedings No. 5935-6
of 8-6-93 dated 23-11-96 re. Police Administration
Report, I propose getting my Report and
Statements printed at the Government
Press and submitting 4 interleaved
copies to Government for their review
and

(22) 4
9720291
1895

and orders.

2. I am asking the Superintendent, Government Press to print the usual number of copies of the Report after reference if necessary, to the Secretariat and to send me final proofs for approval before striking off copies.

I have the honor to be,

Sir,

Your most obedient servant,

Atty

Her Commissioner of Forests.

etc

Proceedings of the Government of Mysore

(2/a)

Read: -

Letter No. $\frac{1491}{176}$ dated 6th November 1896 from the Inspector General of Police in Mysore reporting that the Police Administration Report for 1895-96 is being got ready and soliciting permission to get the Report printed by Messrs V.B. Subbiah and Sons or if the same should not meet with the approval of Government requesting the issue of instructions to the Government Press to have the Report printed without delay.

Order thereon No. $\frac{5935-6}{9693}$.

Dated Bangalore, 23rd Nov. 1896.

File not to go

Branch on 63-97

The Inspector General is requested to send the police
admr.

b

Administration Report for 1895-96
to the Supt^r Government Press,
who will arrange to have the
same printed as quickly as
possible after the proofs are
passed by the Inspector General

(Sd) C. Sreenivasayya
For Secretary -

To The Inspector General of Police
Supt^r of Government Press.

office copy -

Draft as per order 7

GOVERNMENT OF MYSORE

SECTION	Fr.
FILE No.	29 of 96
SERIAL No.	3

Read,

③

Letter No. $\frac{2057}{176}$ dated the 16th December 1896, from the

Conservator of Forests in Mysore, stating that he ^{will get} proposes getting ~~up~~ The Forest Report and statements printed at the Govt. Press and submit 4 interleaved copies for review.

✓
No. $\frac{5471-72}{27.7.29-96}$ 25.12.96
25

Order Thereon

The Conservator's proposal is approved.

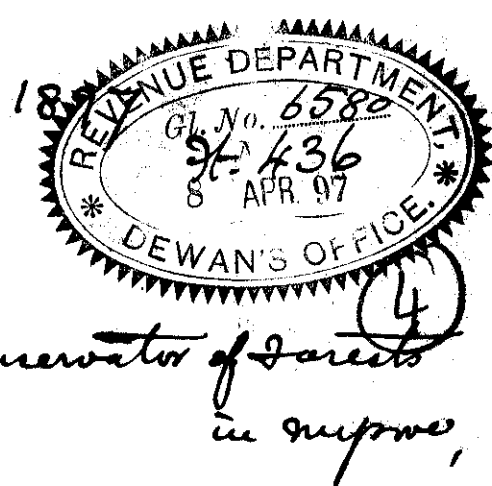
2. The Supt. Govt. Press will print the usual no. of copies and send ^{the} final proofs

proofs to the Conservator of
Forests for approval.

(in order) 25/12/96
For Secretary.

To
The Conservator of Forests
in Mysore
Supdt. Govt. Press.

SECTION Fr.
 FILE NO. 29796
 SERIAL No. 4



From

The Conservator of Forests
 in Mysore,

To The Secretary to Government,
 General and Rev: Departments.

Dated } 7th April 1897
 despatched }

No. 3821 E:6.
283

Submits six copies of
 the Progress Report of
 Forest Administration in
 the Mysore State.

Rev

7.4.97

Fr
 28/4/97

OFFICE OF THE
CONSERVATOR OF FORESTS IN MYSORE.

Rev. Forests
No. 3821 E: 6
283

Dated 7th April 1897

From

COLONEL I. CAMPBELL WALKER,
Conservator of Forests in Mysore.

To

The Secretary to the Government of Mysore,
Gen. and Rev. Departments.

SIR,

With reference to Government
Proceedings noted in the margin, I
have the honor to submit six ~~under~~ bound
printed copies of the "Progress Report
of Forest Administration" in the
State for the twelve months ending
30th June 1896.

I have the honor to be

Yours most ^{Sir} obedient servant

I. Campbell Walker
I. Campbell Walker, Conservator of Forests

per

(1) Government Proceedings No: 5741-96
dated the 25th December 1896.
(2) Govt. Progs: No: 9657-89 dated 4th March 1897.
Ex: 300
A. W. 3
spare copy put up

1896-97

GOVERNMENT OF MYSORE

EXCISE

PROCEEDINGS

Dated 1st March 1897

No. $\frac{7657-89}{\text{Ex. 300}}$

Laying down instructions for the printing of departmental reports at the Government Press before submission to Government.

Proceedings of the Government of Mysore, dated 4th March 1897.

READ:—

Letter No. 3978—276, dated 26th January 1897, from the Excise Commissioner in Mysore, requesting permission to print the annual Excise Administration Reports and Statistics at the Government Press before submission to Government.

No. 7657-89—Ex. 300, DATED, BANGALORE, 4TH MARCH 1897.

ORDER THEREON.—There is no objection to the Excise, or any other departmental report being printed at the Government Press before submission to Government. The requisite number of copies should not, however, be struck off before approval and review of such report by Government, to whom, therefore, half a dozen advance copies should be submitted in the first instance.

C. SREENIVASIENGAR,
Secy. to Govt., Gen. & Rev. Depts.

To—The Excise Commissioner in Mysore.
The Superintendent, Government Press.
The Deputy Commissioners of Districts.
All other Heads of Departments.

Ed.—H.A.R.

Draft for affl

1897

From

SECTION <u>Mr</u>	
FILE No. <u>29296</u>	
SERIAL No. <u>5</u>	

The Secretary to the Govt. of Mysore.

Rev. & Gen. Departments.

(5)

To The Conservator of Forests
in Mysore

Dated 15th June 97

Despatched 15th

Received

General No. 10857

H.F. No. 29-96

Enclosure No.

Has the honor to request that
the Conservator will be so good as
to forward to this office 2 copies of
his notes of inspection for December
1895 and January & February 1896
The notes of subsequent inspection
if any, and of future inspections
may likewise be submitted as soon
as they are issued.

By order

14/6/97 Secretary
14/6/97

[Signature]

Done by 14/6/97

est
Please put up
the paper cables for
1-3d
10/6/97

Forest Admin. Report for the year ending
30th June 1896

Page 2 Para 9. I have sent me copies of the General
Order. I suppose under any he sent as
from an inspection.

British Forests a portion sold for Coffee
Cultivation. I suppose where
I am called for. I wish to see the papers.

W.D. 83
Patent 28/6/97

As to the loss of Jolly forest and its, it has
been my duty to visit the all forest tracts
in the Province and record them for sale. I
must from my own rule of mind find any
forest for cultivation or otherwise, without
the consent of Govt.

W.D.
The effect of the
law is not

10/6/97
I have
10/6/97

Page 6. Note on. This district has some beautiful
scenery which is not from the forest
thru out. The Govt. will offer in aid
Jolly is more or less the same. It is
to demarcation lines to the state land with in

24/6/97
29/6/97
7/6/97

to demarcation lines to the state land with in
these mountains and their boundary Jolly is simply
to demarcate them so much. It is worthy getting
to reduce the width of the demarcation lines to
necessity.

W.D. 83
The effect of the
law is not

Para 17 In cutting of demarcation lines paid
labour is specially in places where the work
is of little value, as timber or fuel, is not at
all a desirable thing to do. It is a very
may be encouraged to cut them under best

31/6/97

It is possible an argument is put forward that
an argument of this kind will minimize the cost
of demarcation lines

Page 15 Para 30 Such small paying tracts in the
Province ^{may be} be marked and made
over to the Forest Dept. for management of the

18 Jan 60 In most places fire wood
is removed by the State & others
13 ~~for sale~~ within & without the
Province without paying any fee to
govt. It is high time that the supply
there be taken away from people for
their own advantage & the
govt. treasury. In Madras I
believe even the head works have
to pay the fixed fee. When one
has to go to the most part of the
for home use free, it is perfectly fair
that one pay the fee that may be
prescribed as fuel reserved for
sale - the Government may be expected
to send up proposals in this regard
after consulting the local Forest
& Revenue Officers.

or I think should have been more in
the bulk of the work. ~~Efficient~~
in making each position in the work
in hand for pricing and willing to be
fair rather for it. In view of the
work is quite susceptible of improvement.

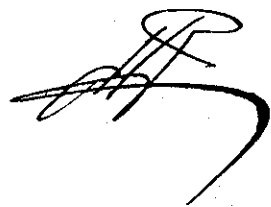
Page 22. I am however shd. be ^{and largely} ~~from~~ ^{under} the
the license system, with rates varying as
to the ^{level} demand and circumstances, and
as far as practicable from material and
or fuel prices. Depositions of cable stations
are ~~not~~ generally very costly besides being a
burden in view of the fact that it is capable
of development as observed by the Service.

Page 26. Para 56. In ^{summary of the} departmental cable station
cost of ~~service~~ ^{service} minor work that
will chiefly depend on the ~~amount of work~~
expenditure incurred on the project. It is
well if the expenditure is shown side by side
the realization of sale in ~~the future~~ ^{the future}.

Page 27. Para 58. In his creation may be
on to forward his proposals
detached, as the subject is one that requires
remedy as early as possible.

Page 29. Para 62. In opinion of the
balance ~~of the~~ ^{of the} ~~work~~
may be expedient.

Hampden
9th June 1897



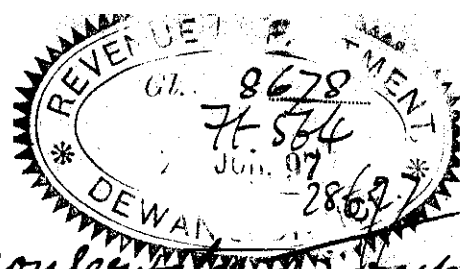
Page 18/Am 60 In most places fire work
is run over by a number of others

13

~~He~~ ~~is~~ ~~also~~ within & without the ~~from~~
Province without paying any fee to
for it. It is high time that the supply
there be taken away from people for
their own advantage & the
deficiency. In matters I
believe even the head works have
to pay the forced fee. When one
people for the most part get food
for home use free, it is perfectly fair
that they pay the fee that may be
prescribed as food reserved for
sale - The Commissioner may be expected
to send up proposals in this regard
after consulting the local District
& Revenue Officers.

From,
RECEIVED FROM THE DEPT. OF REVENUE

SECTION	<u>H.</u>
FILE No.	<u>29496</u>
SERIAL No.	<u>6</u>



The consolidated report
in respect

(6)

The Secretary to the
Government of Mysore
General and Revenue
Department,

Dated 24th June 1897

No. 5284 Enc: 6 sets of
369 Inspection memos

Referring to Secretary

No. 10857 dated the
H-7. No 29-76

15th Instant, Submit copies
of Inspection memos (6 sets)
for the information of
Government.

H
Rev
26/6/97

Vide remarks on
Councillors rough notes

OFFICE OF THE
CONSERVATOR OF FORESTS IN MYSORE.

No. 5284 Enc: 6 ltr
369 of Inspection
 memos
Dated 24th June 1897.

From

COLONEL I. CAMPBELL WALKER,
Conservator of Forests in Mysore.

To

The Secretary to the Government of Mysore,
Gen. and Rev. Departments.

SIR,

Referring to your No. 10857, dat
"H. F. No: 29-96", dat
the 15th Instand, I have the honor to a
- mit copies of my Inspection memos (6
for the information of Government.

They have been communicated
the Deputy Commissioners and District
Forest officers of the several Districts &
the suggestions made are receiving due
attention.

2. I have now got the revision of esta-
- blishments in hand and when
Mr. Biddulph can spare time shall
take

1 set put up.
5 sets are in office.

Take up the Departmental accounts and
Code along with which general suggestions
with regard to the Forest administration
in Mysore will be submitted.

I have the honor to be,
Sir,
Your most obedient servant,

W. S. P. S.
Mr Conservator of Forests,
in Mysore.
W. S. P. S.

MEMO OF INSPECTIONS, 28TH DECEMBER 1895 TO

4TH JANUARY 1896.

No. 2410-245, dated Bangalore, 23rd January 1896.

Between the above dates I inspected the teak plantations at Manchegaudanhalli, Nissen, Karapur, Udabur-kodu and Kakankote; the kumri planting at Surgur and Tenkal; sandalwood dibbling generally, and especially in the plantation and reproduction block between Hampapur and Gujjegaudnapura; and the timber Depôts at Antarsante and Begur.

2. *Teak Planting*.—As this was merely a casual inspection, I do not enter into any details with regard to each plantation which are already on record. I regret to find the growth on the whole very poor and results quite incommensurate with the expense, which, from a statement prepared for me by the District Forest Officer, aggregates Rs. 73,000, in round figures, from 1872, when the planting appears to have commenced, up to the present official year. Some portions are better than others, but none that I saw are ever likely to produce timber nor, I fear, even good “poles.”

The primary causes are to be found in insufficient rainfall and unsuitable soil, but these are supplemented by planting without nurseries or “congeners,” the use of badly rooted and sickly seedlings, injudicious pruning, and, in some cases, the entrance of fire.

The primary causes are beyond our control, and I can only prescribe that there be no further extension of regular plantations under such conditions. It is too late to introduce nurseries, but any natural growth, which does not choke the trees, should be encouraged. Sandalwood eminently fulfils the above condition and no pains should be spared to propagate it in the plantations. On the other hand thorny shrubs like the Mysore thorn (*caesalpinia sepearia*) and the thorny bamboo (*arundinacea*) must be kept down.

Pruning has in my opinion been overdone. Whilst root suckers and adventitious shoots, which in the oak would be styled epicormic branches, should be removed, as directed by the late Inspector General, it is much better to leave the trees to “clean themselves,” and much more harm is done by injudicious over-pruning than by leaving it to nature.

The pruning knife should only be entrusted to intelligent officers who have been taught how to use it, and the practice of allowing and encouraging ignorant coolies to lop away freely with bill hooks be entirely discontinued. I should say the nursery management must have been very bad both as regards situation and treatment; and as good nursery management is essential to success in any description of planting (whether in regular plantations or kumaris) I propose to depute the Sub-Assistant Conservator and one subordinate to Nelambur and South Malabar at the proper season to study it there.

Of course, as there will be no extension of regular plantations, extensive nurseries in that connection will not be required; but there should be a small well-stocked nursery conveniently situated to each block of plantation from which to draw healthy well-established plants to fill in blanks.

3. *Kumri Planting*.—Both the kumri plantings which I saw were failures, that at Tenkal being the better but still very poor. I do not think the kurambers will earn much for established plants in them this year.

The situation and soil in the first visited Surgur are bad and the seedlings put out must have been wretched little things only an inch or two high, which were of course speedily burnt up.

Regard should be paid in future to situation and soil. The exposure should not be towards the sun and prevailing winds, and the soil as free as possible and well drained.

MEMO OF INSPECTIONS, 28TH DECEMBER 1895 TO

4TH JANUARY 1896.

No. 2410-245, dated Bangalore, 23rd January 1896.

Between the above dates I inspected the teak plantations at Manchegaudanhalli, Nissen, Karapur, Udabur-kodu and Kakankote; the kumri planting at Surgur and Tenkal; sandalwood dibbling generally, and especially in the plantation and reproduction block between Hampapur and Gujjeaudnapura; and the timber Depôts at Antarsante and Begur.

2. *Teak Planting*.—As this was merely a casual inspection, I do not enter into any details with regard to each plantation which are already on record. I regret to find the growth on the whole very poor and results quite incommensurate with the expense, which, from a statement prepared for me by the District Forest Officer, aggregates Rs. 73,000, in round figures, from 1872, when the planting appears to have commenced, up to the present official year. Some portions are better than others, but none that I saw are ever likely to produce timber nor, I fear, even good “poles.”

The primary causes are to be found in insufficient rainfall and unsuitable soil, but these are supplemented by planting without nurseries or “congeners,” the use of badly rooted and sickly seedlings, injudicious pruning, and, in some cases, the entrance of fire.

The primary causes are beyond our control, and I can only prescribe that there be no further extension of regular plantations under such conditions. It is too late to introduce nurseries, but any natural growth, *which does not choke the trees*, should be encouraged. Sandalwood eminently fulfils the above condition and no pains should be spared to propagate it in the plantations. On the other hand thorny shrubs like the Mysore thorn (*caesalpinia sepearia*) and the thorny bamboo (*arundinacea*) must be kept down.

Pruning has in my opinion been overdone. Whilst root suckers and adventitious shoots, which in the oak would be styled epicormic branches, should be removed, as directed by the late Inspector General, it is much better to leave the trees to “clean themselves,” and much more harm is done by injudicious over-pruning than by leaving it to nature.

The pruning knife should only be entrusted to intelligent officers who have been taught how to use it, and the practice of allowing and encouraging ignorant coolies to lop away freely with bill hooks be entirely discontinued. I should say the nursery management must have been very bad both as regards situation and treatment; and as good nursery management is essential to success in any description of planting (whether in regular plantations or kumaris) I propose to depute the Sub-Assistant Conservator and one subordinate to Nelambur and South Malabar at the proper season to study it there.

Of course, as there will be no extension of regular plantations, extensive nurseries in that connection will not be required; but there should be a small well-stocked nursery conveniently situated to each block of plantation from which to draw healthy well-established plants to fill in blanks.

3. *Kumri Planting*.—Both the kumri plantings which I saw were failures, that at Tenkal being the better but still very poor. I do not think the kurambars will earn much for established plants in them this year.

The situation and soil in the first visited Surgur are bad and the seedlings put out must have been wretched little things only an inch or two high, which were of course speedily burnt up.

Regard should be ~~in~~ in future to situation and soil. The exposure should not be towards the sun and prevailing winds, and the soil as free as possible and well drained.

Strong well-rooted plants which have been transplanted, at least once in, the nurseries, are absolutely essential to success.

The District Forest Officer, North Malabar, finds they do best if not less than 8 or more than 16 inches high, or say one foot on an average. Such plants carefully planted during first burst of the monsoon will quickly establish themselves and be at least 3 feet high before the rains are over.

If kept clear of noxious growth and protected from damage by fire or cattle, they should in the second or third year form a leaf canopy of their own and require little further care beyond clearing of climbers and thorny under-growth.

This method of reproduction had much to recommend it—especially if seedlings of other trees such as *Pterocarpus*, *Dalbergia* and *Terminalia*, be associated with the teak—and should I think be vigorously prosecuted in suitable localities.

I understand that the kurambers who had appeared willing to carry it on petitioned the Dewan recently against it. This is probably due to their appreciating the fact that if all the old kumris are started with teak and other good timber trees, they will not be allowed to cultivate them again with cereals. This is quite true, but it should be clearly explained to them that if they only succeed in reproducing the teak, not only will they be paid the stipulated sums but we shall be only too glad to give them fresh forest for similar treatment. I regard the question of the reproduction of teak, honné, bité and such like good timber trees as one of the most important and difficult in the present stage of forestry in India, for they have all been over-felled and protection against fire and cattle alone does not suffice to ensure their natural reproduction; rather the contrary.

4. *Sandalwood Dibbling*.—Scarcely, if at all, secondary in importance but I think easier of solution is the reproduction of the valuable sandalwood tree which has its natural habitat in Mysore. I am glad to note that the experiments in sandalwood dibbling which I saw were on the whole fairly successful, especially in the Hampapur reproduction block in which there are quite a number of promising young trees presumably from self-sown and dibbled seed.

I do not believe in pure sandalwood plantations nor in any planting or sowing in the open. The seedling must have shade and protection at the outset, though the tree is a light supporting one. Its congeners in a natural state are the bamboo and dindiga (*Anogeissus*), and if we only follow nature and dibble under their and similar shade, protect thoroughly from fire, cattle and goats, and clear away climbers and any parasitical growth, I have great hopes that the stock of sandalwood 30 or 40 years hence will largely exceed what it is now. Experiments should, I think, be made in steeping the seed before sowing which as possible should take place during the early rains, so that the seedlings may be established before the hot weather. Complete protection from fire and cattle is essential, for which reason our efforts should mainly be directed to areas over which we have absolute permanent control, although, the tree being a State monopoly, this is not so essential as in the case of other descriptions.

5. *Depôts*.—The two small depôts inspected appeared to be in good order, but I did not check the books.

I also inspected two private depôts in which Malabar timber is stored on the road between Kakankote and Bavali.

Rules will shortly issue for their regulation and control in communication with the Malabar Forest Officials.

6. *General*.—The District Forest Officer Mr. Abdul Karim Sahib, and Heggaddevankote Sub-Division Officer Mr. M. G. Rama Rao, accompanied me throughout my short trip, and displayed an intelligent knowledge of the plantations, &c.

I also saw the acting Kakankote Ranger B. Chandrasekharaiya and Sargur Ranger C. Srinivasa Rao and three Foresters.

The Rangers, Foresters and Forest Guards will have to be more neatly and uniformly dressed by degrees.

I. CAMPBELL WALKER, Col.

Conservator of Forests

MEMORANDUM OF INSPECTIONS FROM 24TH JANUARY TO
29TH FEBRUARY 1896.

DATED, BANGALORE, 31ST MARCH 1896.

1. Inspections embraced portions of the BANGALORE, KOLAR and Tum Districts, ten days having been spent in Bangalore, six in Kolar and twenty-on the Tumkur District.

The Bangalore District inspections were, except as regards casual observation of the forest growth along the lines of march and in the Hulkadidrug block of the Dodballapur State Forest and Addagudda and Addahalla tracts proposed for reservation, confined to plantations.

In Kolar, my chief object was to enquire into the working of the firewood depôt at Chikballapur and inspect the State Forest from which it is supplied; whilst in Tumkur, inspection embraced the State Forests of Devarayadrug, Maddagiri and Huliurdrug in addition to Plantations, District Forests, the depôts at Tumkur and Maddagiri towns and the District Forest office. The District Forest Officers and Plantation Officer accompanied me and I took every opportunity of making the personal acquaintance of the District Revenue Officers and Forest subordinates.

2. *Plantations*.—The plantations inspected were:—

- 24th January—Hebbal (P), Alalsandra (R), Jakkur (R)—between Bangalore and Yelahanka. *Note*—Two other casuarina and sandal plantations (Kodigehalli and Bettahalli) under the Plantation Officer were seen from a distance.
25th January—Akkupete (R), Sevakanahalli (R)—near Devanahalli.
26th January—Sulalappanadinne (R).
27th January—Kamasettihalli (P).
1st February—Palinjoghalli (R), (Dodballapur).
4th February—Jakkasandra (P), and Krishnarajpura (P)—five miles from Dobbspot.
5th February—Virasagara (F), near Dobbspot (also Addagudda proposed reserve).
7th February—Dasarahalli (F).
8th February—Panditanahalli (P).
10th February—Gollahalli (F), Kumbarahalli (F)—Devarayadrug.
11th February—Gantiganahalli (F), (about 3 miles south-east of Koratagere).
15th February—Sulekere (F), (situated just outside the Maddagiri Forest).

Without going into details, they may be classed as (1) pure casuarina or sandalwood plantations and (2) mixed plantations, containing teak, sandal, bagi (*Albizia lebbek*), bilvara (*Albizia odoratissima*), chujalu (*Albizia amara*), alale (*Terminalia chebula*), nerle (*Eugenia jambolana*), pannerale (*Eugenia jambos*), lunise, (*Tamarindus indica*), Australian silver oak (*Grevillea robusta*), mugali (*Acacia suma*), kanchivala (*Bauhinia purpurea*), &c., along with the sine tanager (*Cassia florida* or *Siamea*) which has been pretty generally adopted as a nurse both in the plantations and cultural operations.

3. *Casuarina Planting*.—Casuarina planting appears to have been commenced on an extended scale by Captain Vansomerén about 1871-72 to provide railway fuel and secure the firewood supply of Bangalore. I remember expressing doubts at the time to Captain Vansomerén both as regards yield and financial results of planting the tree in a soil and climate like Mysore, so different from the sandy sea-shore or river banks with water within two or three feet of the surface which it affects, but he assured me that with good pits it could be readily established, give a fair yield per acre and that, although the cost would naturally be much higher than in Madras under the conditions above indicated, the price

P.—Under Plantation Department.
F.—Under District Forest Officer.
R.—Under Revenue Department.

obtainable either from the railway or locally would be correspondingly higher and show a good profit.

So far as can be gathered from the accounts which have not been very carefully kept, it would appear that the average cost per acre has been about Rs. 45 including interest on capital outlay at 5 per cent and establishment charges for 15 years, when the average yield may be taken as 15 tons per acre and the average net selling price after deducting felling, billetting and carriage charges may be taken as Rs. 3-4-0 per ton or Rs. 48-12-0 per acre. This would represent a profit of only Rs. 3-12-0 per acre or a return of only annas four per acre per annum.

From a paper by Mr. Popert, Senior Conservator of Forests, Madras, in the "Forester" for January last, the corresponding figures in Madras are as follows:—

Cost of formation and up-keep including establishment and interest for 10 years, Rs. 82 per acre, average yield 40 tons per acre, and net selling price Rs. 3 per ton. Net revenue Rs. 38 per acre or Rs. 3½ per acre per annum. In Madras, they plant about 600 trees to the acre against 500 here (which has since been reduced to 250 per acre) and fell at ten as against 15 years in Mysore and it will be observed that, whilst the expenditure and yield are much higher in Madras and the price realised is much the same, the heavier yield and shorter rotation make all the difference as regards profit.

Although interesting the foregoing comparison is of little or no practical value now, as the Railway Companies will not burn the wood, which, they state, gives too quick or intense a heat and injures the fire-boxes and boiler tubes, and are supplied with Singarene coal, whilst the local demand has also all but ceased for very similar reasons and is supplied from private plantations at exceedingly moderate rates, one good and very marked and satisfactory result of the tree having been successfully established by Government being the spread of private planting and well-wooded appearance of the environs of Bangalore.

No further casuarina planting should be undertaken and the existing stock must be got rid of to best advantage, as opportunities present themselves, serving meanwhile as nurses or shade to the sandalwood as indicated in the following remarks.

4. *Sandalwood Planting and Sowing.*—Sandalwood planting has of late been replaced almost entirely by sowing or dibbling with nurses or under partial shade of existing trees and shrubs which is a move in the right direction, the artificial reproduction of sandal by nurseries and planting out either alone or with nurses never having been attended with success, so far as I am aware, though thousands of rupees have been spent on the attempts both in this Province and the Madras Presidency. Although a light supporting and loving tree, the sandal must have shade in its early stages of growth and as usual we cannot do better than study and follow nature and endeavour to secure as far as possible the same conditions and congeners as we find existing in tracts, where it reproduces itself naturally. These are chiefly hedge rows, consisting of thorny shrubs, and comparatively open forest containing bamboo, dindiga (*Anogeissus latifolia*), bevu (*Melia azadirachta*), narave (*Premna tomentosa*), beppale (*Wrightia tinctoria*), kakke (*Cassia fistula*) and such like trees. A pure sandalwood tract is, so far as my experience goes, unknown in nature, though it is very gregarious and patchy affecting one side or aspect of a hill, where it constitutes itself the predominant species, whilst it is almost or altogether absent in adjacent areas, the conditions of which as regards soil, exposure, &c., appear similar. I believe so strongly in natural as opposed to artificial reproduction and that the former in the case of the sandal is merely a question of thorough protection against fire (of which it is very impatient) and browsing that I would abandon the latter in favor of the former method, but, as its propagation is of such vital importance and being a Government monopoly, its growth need not be confined to reserved areas, would supplement natural regeneration by sowing and dibbling, wherever the circumstances are favorable. As indicated above, a good deal has been done in this direction, but so far without much success in the Bangalore District. A large percentage of the seedlings, which germinate during the monsoon, perish during the ensuing hot weather and those which survive exhibit after a few years a sickly and prematurely old appearance. As a rule, they appear to want the ground better covered and in lieu of the *Cassia siamea* (more generally known as *florida*) I would like to see the indigenous varieties, *Cassia*

auriculata and *fistula* tried along with 'bandare' (*Dodonaea viscosa*), honge (*Pongamia glabra*) and exotics, such as Divi-divi (*Caesalpinia coriaria*), in fact anything to cover the ground and yield some return as firewood or from minor or subsidiary products. The so-called "cultural operations," ploughing and sowing sandal and sime tangadi (*Cassia siamea*), have not on the whole been successful and should be discontinued after the present season.

On the other hand, sowing or dibbling under casuarina promises well wherever the soil is at all good and the deer are not too destructive. If we can create young sandalwood plantations under the casuarina to take their place on removal as above suggested, a great point will be gained, which will more than compensate for the fall in value of the latter as firewood; but great care will have to be taken in felling not to damage the young sandal trees and if possible a growth of under-wood should be secured, which is very difficult, if not impossible, under casuarina.

The most gratifying results observed in the shape of sandal growth under casuarina were certainly in the Jakkaandra and Krishnarajapura Plantations in the Nelamangala Taluk. These blocks which are under charge of the Plantation Officer are situated on either side of the high road between Doddballapur and Dobbspet and have an aggregate area of 753 acres, of which about 400 acres are classed as stocked, containing about 100,000 casuarina trees of different ages, the total expenditure so far as can be ascertained from the accounts having been Rs. 7,700 or a little over Rs. 10 per acre.

The planting of casuarina was commenced in 1888, when a few nursery raised sandal seedlings were also put out, but did not flourish.

Dibbling was commenced in the following year. So the oldest sandal plants are seven years old and some are certainly 18 feet high with luxuriant foliage and a healthy and robust appearance generally.

The cost of this dibbling in some 46,000 patches has been a mere bagatelle (under Rs. 15) and the result so far is most encouraging, though we cannot of course expect it to be equally good everywhere. Spotted deer are reported to do great damage in the early stages of growth and must be shot down.

There is a good supply of water and a watcher's hut adjoining these plantations and I should like to see a good Forest or Inspection Lodge erected and a regular Forest Station gradually created.

5. *Mixed Plantations*.—I regret to say that the "Mixed Plantations" visited must be regarded as more or less failures. The great mistake, it appears to me, has been in attempting to grow species unsuited to the climate in very poor soil and without any definite object. Thus, to attempt to grow teak in hard gravel and syenite soils with a rainfall of less than 40 inches is to court failure and the same may be said of most of the other species. To grow "timber" or even good poles or firewood under such conditions is impossible, and if trees were to be reared for their fruit or other products, much larger pits should have been dug, more watering done and only the best and most suitable descriptions planted out after being well established in nurseries.

It strikes me as a curious and noteworthy feature that such plantations have so frequently been created or attempted in or just outside "State Forests" without in the latter case being incorporated with them. To reserve a more or less wooded tract and immediately proceed at great expense and generally under unfavorable conditions as regards soil, &c., to introduce comparatively exotic species instead of thoroughly conserving and extending the indigenous growth appears to me to be ignoring the first principles of forestry and the teachings of nature, and when I find in addition that there is only a very limited demand on the State Forests themselves owing chiefly to inaccessibility and absence of roads, I can only conclude that circumstances must have greatly altered since the plantations were commenced, or that those who started and extended them were misinformed and over-zealous or sanguine with regard to the conditions of growth and probable financial results.

6. I have remarked that the demand on the State Forests is limited, but it exists and is satisfied from elsewhere doubtless from the District Forests and "gomal" lands which cannot be expected to meet it permanently. The State Forests are the reserves for the future and it is the chief duty of the Forest Department to protect and improve them and render them more accessible by

opening up communications. Their area at end of the official year 1893-94 aggregated 1,630 square miles, which will, I think, be found inadequate and have to be largely supplemented. The area of plantations at the same date is entered as 33 square miles, but a large proportion of that area is either unstocked or nearly so. It need hardly be pointed out that such areas, even if they could be fully stocked, would be quite inadequate to meet or even to supplement in any appreciable degree the demands of the future.

It must not be supposed that such mistakes and failures are peculiar to this Province. Exactly the same sort of thing occurred in Madras and doubtless elsewhere until more enlightened counsels prevailed.

The best thing to do with the existing plantations will be to plant them up wherever the soil and water-supply are at all favorable, with palmyras, cocoanuts, and other fruit bearing trees, such as gall-nuts, tamarinds, mangoes, &c., which once properly established, may be relied upon to produce a revenue sufficient at least to meet the expenses of up-keep after comparatively few years—along with tangadi, dates, &c., as undergrowth, but such planting up must be well considered and carried out on clearly defined lines by competent subordinates. No new plantations or extensions must be undertaken, except on estimates carefully setting forth and justifying their purpose, cost of formation and up-keep and probable yield in produce and money, instructions regarding the framing and submission of which will be drawn up and embodied in the "Forest Manual." It is in contemplation to do away with the separate plantation branch and place all the plantations in charge of the ordinary District Forest and Revenue staff, the District Forest Officer being responsible to the Deputy Commissioner and Conservator for their management under proper principles and with due regard to economy.

If this is sanctioned, a separate note dealing with plantations generally will be prepared.

7. *Kolar District.*—My chief object in visiting a portion of this District was to settle certain vexed questions with regard to the firewood depôt at Chikballapur which appeared to hinge very much on the situation and capability of the Narasimhadevarabetta State Forest, from which the bulk of the supply is drawn.

I had already noted that it was impossible to expect good financial results from the Government Depôt, if the license or seigniorage system was allowed to compete with it any quantity of firewood being brought into the town on permits for cart and head loads, and the Deputy Commissioner had agreed to stop the issue of such permits for cart-loads, whilst objecting to any restrictions being placed on the poor class who eked out a living by bringing in head loads of dead wood for sale.

8. After inspecting the depôt, the stock in which had been allowed to fall very low prior to the site being changed, and hearing what a deputation of the leading inhabitants had to say on the subject, I proceeded with the District Forest officer, Amildar and Ranger (Mr. King) to Heggadanhalli, from which I inspected the portions of the Narasimhadevarabetta Forest known as Blocks II and III.

The forest growth is on the whole wretchedly poor which is not to be wondered at considering the soil which is rocky and poor, scanty rainfall (average 31.50 inches), faulty methods of working, comparatively heavy grazing at certain seasons, and insufficient protection.

The chief trees observed were :—chujalu (*Albizzia amara*), devadaru (*Erythraeylon monogynum*), narave (*Premna tomentosa*), dindiga (*Anogeissus latifolia*), gorivi (*Leora parviflora*), kuli (*Gmelina arborea*), muttaga (*Butea frondosa*), cheninge (*Lagerstræmia parviflora*), hulve (*Terminalia paniculata*), pachari (*Dalbergia paniculata*), the last four not felled for fuel, though the Cheninge or ventek is an excellent firewood and produces good poles from coppice; with mangare (*Randia dumetorum*), papati (*Webera corymbosa*), kare (*Canthium parviflorum*), bikke (*Gardenia gummifera*), jagalaganti and tupra (*Diospyros montana* and *tupru*) and similar shrubs.

9. Block No. II which lies to the south of the road and is said to contain about 5,000 acres ($7\frac{1}{2}$ square miles) had recently been felled on contract by Yernul Narasimmaiya, who manufactures sugar mills in Chikballapur, and is closed except to small fellings on license which will now be stopped.

The felling had been well done and the coppice growth is encouraging, some of the shoots from stumps of cheuinge, devadaru and hulve felled three or four months previously being from 4 to 5 feet high and I was glad to see seedlings, chiefly dindiga, springing up. Contrary to its habit, the chujalu has not coppiced well, being apparently too old.

All that is now required to ensure fairly good regeneration is absolute protection from fire and cattle and a few simple cultural operations, such as breaking up the soil, dibbling in and sowing seed broad-cast to fill up blanks, but it will be very difficult to secure the absolute protection required for reasons which apply to the whole forest to be stated further on.

• 10. Block No. III adjoins No. II from which it is separated by the high road. It comprises upwards of 10,500 acres ($16\frac{1}{2}$ square miles), but is so rocky that I do not believe more than a quarter or 2,500 acres is productive. Felling has hitherto been on license without any restrictions as to locality, the permits for cart or head-loads being issued and recovered by the same men (Ukadadars or Tannahdars) stationed on the roads leading to the forests. A contract has now been given by the District Forest officer for the supply of the dépôt, but unfortunately no condition has been or apparently from the absence of competition could be inserted, restricting the contractor to small areas to be laid off and felled under effective supervision in rotation. Yernul Narasimmaiya has also a contract for charcoal in the same block which, however fortunately expires next June or July and must on no account be renewed.

11. As a commencement or experiment, I had 2 "Coupes" of about 50 acres each laid off by the Surveyor and ordered felling for firewood and charcoal to be restricted to them till they are exhausted, when others should be laid off. This will give us some data as to yield per acre regarding which the District Forest Officer and Range Officer were quite in the dark, and enable us to regulate the felling and perhaps protect the felled "coupes" better. Unfortunately, owing to difficulties of access I had to lay them off on the south or rear side of the forest, so that future fellings will be beyond and have to be carted through them which will be detrimental to good copice growth, but it could not be avoided, as the contractor objected to working in the more remote parts of the forest first and would much prefer felling all over the place, as has been the custom, and would not be contrary to the terms of his contract, so we had to humour him.

The requirements of Chikballapur as regards firewood are estimated at 150 tons monthly and for charcoal for Narasimmaiya's foundry 15 tons monthly, say 2,000 tons annually. I do not think we can expect more than 4 tons an acre from the forests I saw, so will require 500 acres annually to meet the demand.

On this basis and presuming only $\frac{1}{4}$ or 2,500 acres of Block III to be productive, it will be exhausted in five years and should be closed for re-production for at least 20 years at which the rotation may be tentatively fixed, recourse being had to the other blocks to supply the demand.

As usual, in such cases there was a great outcry on the part of the poor class who eke out a living by bringing head loads of what is supposed to be dead wood for retail sale, which was doubtless fostered by the Ukadadars and other subordinates interested in the continuance of the license or seigniorage permit system. I explained to the Amildar that these people might take head-loads of small stuff from the felled "coupes" at reduced rates and also, if they chose, earn wages by felling &c. for the contractors and on this being explained to them they appeared satisfied for the time at least as were the inhabitants generally, though there has since been some complaint owing to short supplies in dépôt due to an unprecedented and sudden demand, which the District Forest Officer promises to guard against in future.

12. All that has been done is purely experimental and tentative and success will depend entirely on the energy and tact of the District Forest Officer and still more of the Ranger and Forester in immediate charge. I think Mr. King will do his best, but unfortunately he has had no training as a forest officer and his range is far too extended to admit of his personally supervising the fellings and protection of the felled areas subsequently.

Having got rid of the license system at least temporarily, I would much like to get rid of the Government Dépôt also and sell the firewood and other forest

produce in or on the outskirts of the forests leaving it to responsible middlemen to remove and retail it. At present this seems impracticable, but it will doubtless come as elsewhere.

At present the retention of the depôt is only sanctioned till end of December. The sales during first six months of the current official year have been 85 tons; 49½ maunds realising Rs. 570-12-4 as compared with 83 tons, 56 maunds realising Rs. 558-9-10 for four months in 1894-95, *i. e.*, from March 1895, when the depôt was started.

It will be interesting to note the effect on sales of stopping the issue of licences and non-renewal of Yernul Narasimmiya's contract, under which he obtained firewood and charcoal direct from the forest. The increase in sales and receipts ought to be very marked, although I reduced the depôt sale rate to Rupee 1 for 14 maunds all round and seigniorage on head-loads on permits for small wood from the felled "Coupe" from 6 to 3 pie per load on the Amildar's suggestion.*

13. With regard to this forest as a whole, I find it entered in the last printed Annual Report (1893-94) as a State Forest with an area of 142½ square miles or 91,200 acres, number and date of notification not being quoted, but the approximate area given me by the District Forest Officer of the four blocks, into which it is divided, aggregates only 54 square miles, a very serious discrepancy which calls for explanation. A question with regard to the inclusion or exclusion of certain areas is now pending, on account of which the final notification has doubtless been deferred.†

I find the boundaries, which have been cleared and demarcated, quite impracticable of patrol, running over ridges and rocks which it would be difficult to traverse even on foot. I am informed that this was done in order to exclude lands for free pasturage of village cattle, the right to which was apparently admitted at settlement, of which the record would appear to have been lost or mislaid. To ensure any real protection against unauthorized felling, fire, cattle-grazing, and trespass in closed areas, a rational and practicable boundary capable of being patrolled is a *sine qua non*, and must be secured even if the exercise of rights (which should be clearly defined) has to be permitted within it.

I must, therefore, reluctantly recommend that the settlement and demarcation of this forest be done over again in accordance with a more systematic and final procedure based on clearly defined principles with regard to rights and privileges, which, I trust, the Government will shortly adopt and promulgate. Until and unless this is done, there can be no finality in a forest settlement and all attempts at protection and improvement as well as working on a rational system are liable to be rendered nugatory by a change of views or policy on the part of District Officers.

14. The Forest Staff employed under the District Forest Officer consists of--

Executive Establishment.	{	2 Rangers.	6 Foresters.	42 Watchers.	Permanent.
		2 Ranger's Peons.			
		3 Foresters.	4 Mutsaddis.	22 Watchers.	Temporary.
District Forest Office Establishment.	{	2 Clerks.	2 Peons.	1 Lascar.	Permanent.
		1 Clerk.			Temporary.

costing Rs. 729 per mensem, which should really be ample, if its members are efficient and properly distributed.

I formed a favorable opinion of Mr. King, but his range is much too extended. The two foresters I saw (Dhonda Rao, and Narayanachar) appeared active and intelligent, but have little or no knowledge of their duties and are not sufficiently

* Note. I have just (24th March 1896) had a report from the District Forest Officer which shows that depôt sales which averaged about Rs. 150 monthly up to end of December 1895 rose to Rs. 302 in January and to no less than Rs. 856 in February. This is very satisfactory from a financial point of view, showing the advantage of the measures introduced and that there can now be little or no unauthorized felling, but the adequate protection and regeneration of the felled areas have yet to be secured.—I. C. W.

† Note.—I find on further enquiry that there would appear to be no proper settlement or record of settlement of this forest at all. Hence, no boundary and alienation statement has been submitted to Government and the forest has never been notified as Reserved or State and will have to be excluded from next year's statement, unless it is settled and notified meanwhile. The demarcation and partial survey appear under these circumstances to have been premature. I am in correspondence with the Deputy Commissioner on the subject.—I. C. W.

supervised, which also applies to the watchers or guards who require a thorough sifting and weeding out. The pay and prospects of these two classes of subordinates, foresters and watchers, should, I consider, be improved.

The Deputy Commissioner was unfortunately otherwise engaged and could not meet me, but the Sub-Division Officer, Mr. B. G. Krishnaiengar called, and the Amildar was constantly in attendance and appears to take much interest in the forest administration of his Taluk. The District Forest Officer, Mr. Ramaswami Iyer, is intelligent and of strong physique with some knowledge of forestry acquired at Dehra Dun, but little practical experience or training, and, I fear, inclined to desk rather than actual forest work.

• 15. *Tumkur District*.—I spent three weeks (6th to 27th February) in the Tumkur District, inspecting the Plantations, State Forests of Devarayadrug, Maddagiri and Huliyurdrug, depôts at Tumkur and Maddagiri and the District Forest office.

The Plantations are dealt with generally in paras 2 to 6 of these notes, the remarks and instructions in which the District Forest Officer and Deputy Commissioner will please note. I shall only refer specially to any planting and cultural operations immediately connected with the State Forests, with which they are or ought to be incorporated, *e. g.*—(a) the Panditanhalli casuarina plantation which adjoins the Devarayadrug State Forest and has an area of 495 acres, of which 371 are reported as stocked, the remainder being unfit for planting. The growth here is good and should meet with a ready sale, as poles in Tumkur, if felled when about 8 to 12 inches in diameter which should be about the 10th year. The plantation which is at present in charge of the Plantation Officer, was started in 1887 and planting closed in 1891-92, and is reported to contain one lakh of trees in round figures or 270 to the acre planted and to have cost about Rs. 10,000. Sandal-wood dibbling has not hitherto been very successful, but should be persevered with, whilst the attempt to grow teak should be discontinued. The plantation should, as indicated above, be merged in the State Forest; (b) The Gollahalli and Kumbahalli Plantations within the State Forest, extending over an area of 150 acres, of which 132 are considered to have been stocked at an expenditure to end of last official year of Rs. 6,335. These plantations appear to have been started originally with the object of filling up blanks and continued spasmodically and without any system or method, most of the species planted, *e. g.* *Eucalyptus globulus*, casuarina, teak, *Eugenia Pterocarpus*, &c., not being suited to the soil or climate. The District Forest Officer was instructed to discontinue all attempts at rearing these descriptions and experiment on a small scale next year with gall-nuts (*Terminalia chebula*), bilwara (*Albizia odoratissima*), bagi (*Albizia lebbek*), and, if seed can be obtained from Mr. Cameron, the Queensland varieties of eucalyptus.—*E. rostrata* and *citriodora*—which may do well.

This should be done by the ordinary forest staff merely with a view to filling up blanks and replacing failures. No extension of regular planting operations being attempted, but of course sandal-wood dibbling should be continued.

16. *Devarayadrug Forest*.—The Devarayadrug Forest after 15 year's partial protection in the Revenue Department under Colonel Dobbs appears to have been transferred to the Forest Department and constituted a State Forest in 1868. Its area was then estimated at 24 square miles which subsequent additions have increased to nearly *40 square miles, but those additions do not appear even now to be finally settled and are burdened with indefinite rights or privileges to free grazing.

The forest is fully described in a memorandum by the Conservator (Captain Vansomerén) printed in Government Proceedings No. 10105-Rev. F. 268 of 5th March 1876, its area being then estimated at only 18 square miles, and I attach a memo regarding its treatment up to date prepared by the District Forest Officer at my request. I found the forest growth on the whole wretchedly poor but capable of improvement, especially in the valleys, under rigid protection and proper treatment. The forest, besides containing the species, more or less stunted, mentioned in Captain Vansomerén's report, which I shall not recapitulate, is rich in sandal-wood.

* N. B.—I see the area is given in the last printed annual report (1893-94) at 29½ square miles, which is probably correct as that would appear to be all which has been finally notified by Government. I. C. W.

It is not only valuable on that account and from its situation about 4 miles from Tumkur and only 43 from Bangalore, but from its being the chief catchment area of six large tanks and the source of the Jayamangala river. Any denudation of its comparatively steep and rocky slopes would certainly affect injuriously the water-supply of the tanks and river, probably causing disastrous floods followed by prolonged droughts. The partial protection afforded has doubtless prevented such calamities, but is insufficient to secure a really good compact forest.

The prescriptions of Captain Vansomerens's preliminary working plan appear to have been lost sight of or disregarded and the treatment of the forest has been desultory and based on no definite plan let alone proper forest principles. In 1883, a contract to supply fuel to the railway appears to have been granted with disastrous effects. In 1892, the present District Forest Officer, Mr. Venkatanaranappa, made a detailed inspection of the forest, divided it roughly into compartments and endeavoured to introduce a rational system of working.

Prior to that, in 1886, something in the shape of improvement fellings had been attempted. I inspected the site, known as Husenayakenbetta and found some fairly good teak poles from 8 to 12 feet high had sprung from the coppiced stools. I detected traces of fire which is said to have occurred in 1887, *i. e.*, the year after the coppicing was done. Considering this, that trespass by men and cattle was never stopped even temporarily, that the soil is poor and rocky and rainfall only 35 inches, the marvel is that there is any natural reproduction at all and it is not to be wondered at that I observed no teak seedlings and very few of other species except sandal, which, I was glad to note, is very abundant throughout the forest, though of course it is patchy, as is its habit. Grazing is allowed on payment at annas 4 per head in the portion of the forest originally reserved for six months (July to December) in each year. Last year, collections were Rs. 350 representing roughly 1,400 head of cattle grazed, which from the indications I saw is much below the mark.

In the portions subsequently added or some of them, free grazing without restriction as to numbers is permitted and I do not see how the cattle so depastured can be restricted to those areas. Goats are supposed to be prohibited, but I found traces of them everywhere and that the forester in charge himself kept a large flock.

17. To put matters in connection with this valuable forest tract on a proper basis the settlement must be revised, better boundaries secured and the rights or privileges of grazing defined and restricted, even if part of the area has to be excluded in order to secure *complete control* of what is left. I shall address the Deputy Commissioner and Government with this object and once it is secured, a simple working plan for improvement fellings and regeneration by area should be drawn up and rigidly adhered to. Meanwhile, the District Forest Officer should ascertain approximate yield per acre by experimental fellings restricted to comparatively small areas or "coupes" to be surveyed and marked on the ground and maps.

The Forest Lodge is unfortunately situated rather low and is a good deal shut in but has a constant supply of good water. Once the settlement is complete and control secured, it should be rebuilt and made the nucleus of a forest station at which the Forest Guards and Watchers* should reside, the lodge being reserved for inspecting officers and authorized visitors, the road up to it being put and maintained in good order for carts.

18. *Maddagiri Forest*.—The Maddagiri Forest which appears to have been first reserved in 1868 and added to in 1893-94 has an aggregate area of about 31½ square miles in three separate blocks, *viz.*, Maddagiri, Chik-Maddagiri and Kolikal.

The settlement record of the two former is not forthcoming, but is said to contain a proviso that cattle may graze on payment throughout the year, the last is reported to be quite free from rights. The forest growth of Maddagiri comprises coppice teak, providing fairly useful poles, stumps coppiced in 1892-93 having thrown up healthy shoots 10 to 20 feet high, *Terminalia chebula* and *paniculata*, *Lagerstroemia parviflora*, *Ixora parviflora*, *Shorea talura* (*Jalari* the lac insect tree), *Premna tomentosa*, *Semecarpus Anacardium*, *Adina cordifolia*, *Buchanania latifolia*, *Erythroxylon monogynum*, *Pterocarpus marsupium*, (Honne, very scarce) with undergrowth of *Randia*, *Canthium*, &c.

* Sanctioned scale 1 Forester, 7 Watchers or Guards.

The soil is, as a rule, poor and rocky and whole tract very dry, the only water available, when I visited the forest in middle of February being at the place known as " Timnaiyagaudan Roppa " (abandoned cultivation), in which the forest lodge is situated. Still, the growth is capable of great improvement under proper treatment and protection. Unfortunately, the means of communication are bad and demand, except for teak poles, too small at present to justify improvement fellings on any scale and although the forest is said to have escaped fire for many years, the accuracy of which is questionable, there is no restriction on trespass, nor, under the terms of settlement, apparently on grazing except the payment of annas 4 per head sometimes reduced to annas 2.

Under these circumstances, the possibilities of control and improvement are of course reduced to a minimum.

19. A good deal of planting has been done at intervals in the neighbourhood of the Forest Lodge and another abandoned clearing, but the results are not encouraging except, as regards sandal sown along the banks of water-courses which promises well and should be continued. I should mention that there is comparatively little indigenous sandalwood in this forest; but the gall-nut tree (*T. chebula*) is frequent and yields a good crop which reached 1,500 maunds this year, which is however quite exceptional.

The Sulekere Plantation which is situated just outside the forest consists of 178 acres, of which 55 acres are classed as stocked by planting and cultural operations at a cost of Rs. 3,355 up to the close of last official year.

The teak is, I regret to say, a complete failure and so far the gall-nuts and other species planted out from nurseries have not succeeded. Cultural operations, *viz.*, ploughing and sowing sandal with *C. Siamea*, also exhibit poor results.

They should be discontinued as well as teak planting after present season, but I would give gall-nuts and *Albizzia odoratissima* a further good trial and experiment with *shorea talura* on which the lac insect can eventually be propagated. A main requirement of this forest is a system of roads on reasonable gradient, to lay out which I am sending the District Forest Officer a simple instrument,

20. If the settlement can be revised so as to give us control over, or at least power to regulate, the grazing by closing felled areas for a time, improvement fellings followed by rigid protection for some years should make a vast difference in the forest growth.

The Forest Lodge might be utilized as quarters for a resident forester, a more convenient building for the use of inspecting officers being erected and a regular forest station created.

Of the two streams which take their rise in the main block, one goes to fill the Bijawara tank and thence empties itself into the Jayamangala river. The other runs westward in the Maddagiri Taluk and becomes a tributary of the Vedavati in the Hiriur Taluk.

I attach a memo (Appendix B.) giving more details regarding the forest prepared by the District Forest Officer.

The Establishment consists of—

1 Forester.	1 Mutsaddi.
7 Watchers.	1 Peon.

21. On my way from Maddagiri to Tumkur, I inspected, at the District Forest Officer's special request, Guntiganahalli Plantation, about three miles south-east of Kortagere. The area is 184 acres, of which about 23 acres have been subjected to cultural operations (sandal and *C. Siamea*) from 4 to 5 acres being ploughed up and sown annually. Prior to 1891-92, only five seers of each description were sown, but the quantity was then increased to 40 seers with a marked improvement in the results, which the District Forest Officer was anxious I should see. The growth especially of that sown in 1892-93 is certainly encouraging; but I doubt if any of the sandalwood trees will ever grow to maturity and supply good billets. Moreover, the area is too small and remote from any other forest to repay special attention. On the other hand, dibbling of sandal seed along the banks of the water courses has been very successful so far and should be extended wherever practicable.

22. HULIYURDRUG FOREST. The Huliurdrug Forest appears to have been notified in 1884 with an aggregate area of 30 square miles, to which one mile and

173 acres have since been added. It is demarcated and stated to be quite free from rights. Unfortunately the published boundaries do not correspond with those demarcated and the rectification of one or the other is under reference.

The forest consists of four blocks, known as IPPADI, HULIYURDURGA, UJJANI and KAMPLAPURA. The Huliurdurga and Ujjani Blocks are contiguous, but the other two are detached, the last Kamplapura, being situated at some miles distance from the main block and on the other side of the main road and Huliurdurga village.

I inspected the Huliurdurga and Kamplapura Blocks.

The former is the largest and possesses considerable capabilities. Teak is not frequent and of stunted growth and there is little or no sandal, but the *Terminalias*, *Lagerstrœmia parviflora*, *Acacia catechu* (kagli) *Albizzia amara* (chugalu), *cassia fistula*, *Eugenia*, *Premna*, &c. are plentiful and of fair growth considering that they have been lopped and browsed and the soil is, as a rule, poor.

23. A good deal of planting appears to have been carried on in a desultory manner in blank (formerly cultivated) places, but none has been successful and there is no use wasting more money on such attempts.

A proposal for an irrigated plantation of teak, &c., which emanated from the present District Forest Officer in 1894, is in quite a different category and deserving of serious consideration and the preparation of detailed estimates, if it is established that the supply of water throughout the year is sufficiently assured and we (the Forest Department) have the right to use it as required. The Deputy Commissioner has been requested to report definitely on these two points and the District Forest Officer to have the area available surveyed and levels taken, as soon as the services of a surveyor can be spared or procured in the District.

24. The Kamplapura block abounds in sandalwood, which along with the other forest growth has certainly benefited by the protection afforded since 1893. Endeavours should now be made to fill up blanks by breaking up the soil so as to facilitate re-production and sowing or dibbling in sandal and other seeds, the object being to secure by degrees a close or compact forest and "leaf canopy."

It is very interesting and instructive to compare the Kamplapura block, imperfectly protected and treated as it has been, with the adjoining "gomal" lands, the forest growth on which is rapidly deteriorating and disappearing. Some measures must be taken to protect such lands or they will certainly be denuded and broken up for cultivation ere long. This important matter will be separately dealt with.

25. The drainage from the Huliurdurga and Ujjani blocks is into the Shamsa, a considerable stream, whilst the Ippadi block forms the chief catchment area of the Devambudi tank (the bund of which is one of the boundaries of the forest), the surplus also finding its way into the Shamsa river.

26. A memorandum on the Huliurdurga forest by the District Forest Officer is attached (Appendix C) The establishment consists of one Forester and three Watchers.

27. I inspected the depôts at Tumkur and Maddagiri (town). The former is conveniently situated close to the Deputy Commissioner's and District Forest Officer's Offices, but is very cramped for room and if continued, arrangements must be made for its extension or removal elsewhere.

The stock consists chiefly of teak, casuarina and other "poles," firewood and bamboos, receipts for 1894-95 having aggregated Rs. 5,294 representing a profit of Rs. 2,561 after deducting all expenses for felling and conveyance and special establishments entertained. The "poles" had better, I think, be sold at "so much each," according to class, instead of "by the cubic foot." There is apparently a good demand both for teak and casuarina. The bulk of the receipts is however from firewood, 73,396 maunds of which sold in 1894-95 appear from a memo given me by the District Forest Officer to have realised only Rs. 4,098, which is less than anna 1 per maund. This requires explanation.

During the first 6 months of current official year, the sales have not been so brisk and the supply of casuarina poles is falling short. It might probably be supplemented by more bamboos with advantage to the revenue and no detriment to the forests, if they are treated in the right manner.

The depôt registers (Vernacular) appear to be carefully kept. The special depôt establishment consists of a Mutsaddi on Rs. 10 and 3 peons, 2 on Rs. 6 and 1 on Rs. 5, costing Rs. 247 for 1894-95.

The Maddagiri depôt has a commodious site in the old fort. The stock consists of teak and jungle wood poles. Firewood and bamboos, receipts in 1894-95 having been Rs. 1,023 and net profit after deducting all charges Rs. 458, but sales have not been so brisk during first half of current official year, for which they aggregate only Rs. 415. The demand for firewood appears slack, which is not to be wondered at, as it is removed free from District Forests in the neighbourhood.

Here again, the price would appear to be under anna 1 per maund which requires explanation.

There appears to be a good demand for teak poles, which it will be simpler to dispose of by class and number merely ascertaining the average cubical contents for entry in the account; larger supplies of bamboos would probably meet with ready sale at remunerative prices.

The registers of daily receipts and sales, &c., appeared in order, sale proceeds being sent to the Taluk Treasuries daily.

The special establishment employed consists of a Mutsaddi on Rs. 7 and a peon on Rs. 5, costing Rs. 153-3-3 in 1894-95.

TUMKUR DISTRICT FOREST OFFICE.

28. I inspected the District Forest office (which is conveniently located in the same building as the Deputy Commissioner's) and made the following notes.

REGISTERS OR ACCOUNTS KEPT.	REMARKS.
(1) <i>Cash balance statement</i> .—Headed "Balances out-standing against forest sub-ordinates and contractors" posted monthly.	Posted to end of December 1895. Balance outstanding on that date Rs. 4,758-14-7, out of which Rs. 2,693-7-3 represents real outstandings against the subordinates and Rs. 2,065-7-4 is a book entry made under late Inspector General's orders and retained pending further full instructions as to adjustment. A report was submitted on 11th April 1895, No. 1500, from Deputy Commissioner, requesting instructions, no reply. No details in District Forest office.
(2) <i>Working Charges Bills</i> .—Posted monthly.	Posted up to end of December.
(3) <i>Cheques drawn</i> .—Containing an account current with the Treasury.	Posted to date, balance certified by Treasury Officer to end of December.
(4) <i>Cash Book</i> (so called).—Form 14 contains details of cheques issued on District and Taluk Treasuries.	Posted to end of January.
(5) <i>Establishment Pay and Batta Bills</i> .	Posted to end of January. Batta bills for December received from Comptroller and paid.
(6) <i>Acquittance Rolls for establishment Pay and Batta Bills</i> .	Posted to end of January. Batta bills for December received from Comptroller and paid.

(7) <i>Receipts and Issues of Timber and other Forest Produce.</i> —(No. 12).	Posted to end of December.	
(8) " <i>Jungle Return.</i> "—Timber, fuel and bamboos cut and collected and how disposed of.	Ditto	ditto
(9) <i>Minor forest produce, &c.</i>	Ditto	ditto
(10) <i>Sandalwood.</i> —Cut, collected and carted to kothi.	Posted to end of December. No sale in Tumkur. No kothi.	
(11) <i>Sale Return.</i> —Showing sales from depôts or forests, both District and State, and whether on license or departmental sale, maintained in separate printed sheets, one of which is sent to Head-quarter office monthly and duplicate or office copy retained.	Posted to end of December.	
(12) <i>Plantation progress returns.</i>	Ditto	ditto
(13) <i>Abstract Contingent Bills.</i> —Against permanent advance of Rs. 25 on which advances are recouped.	Ditto	ditto
<i>Detailed Contingent.</i> —Bill sent to Conservator's office.	Ditto	ditto
(14) Live stock.	Nil.	
(15) <i>Tools and Plant.</i> —Statement submitted quarterly to Head office.	Ditto	ditto
(16) "To" and "From" Registers (English) maintained separately.	Posted to date.	
Issues 59 and receipts 75.	Ditto	
Ditto ditto Vernacular.	Ditto	

The records and books are bundled away on shelves in a corner of the office. The former should be neatly arranged according to subjects and docketed so as to facilitate reference and a simple book-shelf or case might with advantage be procured for the latter.

29. The Registers, such as they are, appear to be punctually posted, though I cannot say they are neatly kept and there is a great want of properly bound books and printed forms in which the office copies of returns submitted should be neatly copied.

I do not find the Registers to be maintained in and returns submitted from a District Forest office any where clearly prescribed, though there is reference to the subject in an inspection note of the late Inspector General printed as No. 36, at page 235 of the "Mysore Forest Manual."

Much would appear to be left to the District Forest Officer's discretion and a most remarkable feature is the absence of anything in the shape of a "Cash book" which forms the nucleus of all the forest accounts in British India.

This matter will receive special attention in connection with the compilation of a Departmental Code. The large outstanding advances, many of which date from many years back and cannot be explained, has already formed subject of circular orders, which will, it is hoped, ensure their adjustment in one way or other within the official year.

30. The general impression left on my mind after inspection of about one-half of the Tumkur District is, that the District Forest Officer Mr. Venkatanarnappa has matters well in hand and an intelligent energetic assistant in the Ranger S. Venkoba

Rao, but that both are not so well acquainted with what constitutes proper forest management or with the names and habits of growth of the trees as I could wish. Mr. Venkatanarnappa is a most reliable and painstaking officer who obtained some knowledge of forestry at Dehra Dun, but has never been in a position to apply it. The Ranger had no special training and, having to travel all over the District, is naturally unable to concentrate his attention in the protection, improvement, and proper working of any one forest or group of forests, the care of which devolves on low-paid and comparatively ignorant subordinates. This must be rectified by the constitution of more Range charges, each Range Officer being directly responsible to the District Forest Officer.

• 31. The area of State Forests in the District, 162 square miles, bears a small proportion to that of the District, 4,093 square miles, and should be supplemented, if possible, by the inclusion of compact areas with good natural boundaries and capable of improvement under proper treatment. When this is done and existing settlements overhauled and revised, the forest establishment should be concentrated on the State Forests, which should be worked on a rational system under a continuous policy, not haphazard.

The incompleteness and vagueness of existing settlements, want of a proper record, and custom of adding on pieces without any settlement at all are grave drawbacks rendering anything like complete control and the prescription of definite plans of operations or preliminary working plans impossible.

Our first step must therefore be to complete the settlements already made and have a complete record of claims and admitted rights (if any) prepared under competent authority. The District Forest Officer with the Deputy Commissioner's assistance should at once take steps in this direction and also select additional areas for settlement and reservation.

32. Meanwhile, every thing possible must be done to protect and improve the State Forests already constituted (if imperfectly) and develop their production not by issuing licenses or giving contracts wholesale, but departmentally or through agents carefully instructed and supervised. In this manner, the forest revenue of the District, which has averaged Rs. 30,000 for the past five years and was Rs. 30,728 in 1894-95, can doubtless be greatly enhanced, especially from bamboos and minor products not only without detriment, but with advantage to the forest growth which must be our first care.

33. The details of District Forest Establishments, permanent and temporary, of Bangalore, Kolar and Tumkur Districts are annexed for ready reference.

They will require to be thoroughly revised, re-classified and re-distributed, as matters progress under a system to be made applicable to the whole Province, an outline of which will be submitted to Government for approval, when I have inspected other Districts and can gauge requirements more accurately.

I. CAMPBELL WALKER, COLONEL,
Conservator of Forests in Mysore.

Statement showing the Forest Establishments, Permanent and Temporary, in the Districts of Bangalore, Kolar and Tumkur.

Designation of Officials.	Bangalore District.		Kolar District.		Tumkur District.		Remarks.
	No.	Cost per mensem.	No.	Cost per mensem.	No.	Cost per mensem.	
		Rs.		Rs.		Rs.	
I. EXECUTIVE ESTABLISHMENT.							
<i>Permanent.</i>							
Rangers ...	2	100+30	2	120+30	1	50+15	
Daroga ...	1	50	...	...	...	...	
Foresters ...	10	155	6	92+10	4	65	
Manegars ...	3	37	...	...	...	...	
Kothi Mutsaddi ...	1	20	...	...	...	...	
Depôt Mutaddis ..	...	...	...	...	1	10	
Head Watchers ...	2	14	...	...	3	19	
Watchers ...	50	264	42	203	18	92	
Peons ...	5	29	2	12	4	23	
Sandal Kolkars ...	5	27	...	...	...	...	
<i>Temporary.</i>							
Lac Inspector ...	1	20+7	...	...	...	...	
Foresters ...	1	10	3	37	1	10	
Manegars ...	...	...	...	...	2	14	
Mutsaddis ...	1	10	4	31	3	22	
Watchers ...	44	220	22	108	22	98	
Pass Collector, Kolkars, &c. ...	2	10	...	...	4	20	
II. DISTRICT FOREST OFFICE ESTABLISHMENT.							
<i>Permanent.</i>							
Clerks ...	2	55	2	50	2	45	
Mutsaddi ...	1	15	...	...	...	...	
Peons ...	2	14	2	14	2	14	
Lascar ...	1	7	1	7	1	7	
<i>Temporary.</i>							
Clerk ...	1	15	1	15	1	15	

APPENDIX A.

Some 43 years ago, there was no State Forest of the name of the Devarayadurga. The forest was then everybody's property and was subjected to all kinds of merciless fellings. Iron-smelters established their furnaces in many places within the forest and were hacking down trees of various species for burning purpose. This state of destruction was continued up to the time of Mr. Dobbs, the Divisional Superintendent, when an attempt was made in the direction of forest protection. Iron-smelters were forced to leave the forest. Two Revenue Peons were employed to protect the forest against the unauthorized felling. The only right allowed to the raiyats was that of free grazing. For nearly ten years, two Revenue Peons were the forest watchers, when two more peons were given to them for help. These four peons guarded the forest for five years. Thus, for nearly 15 years, the forest was under the direct control of the Revenue Department.

2 The Devarayadurga State Forest was first constituted into a State Forest in 1867-68. It then embraced an area of 24 square miles and was divided into four unequal parts by block lines cut through the forest. The establishment entertained for its protection and maintenance consisted of, a Forester and six Watchers, to which a Head Watcher was added in 1877.

3. In 1870, the Kumbarhalli Plantation was started within the State Forest. Nerle, hippe and teak plants were planted up to 1874, when casuarina planting was adopted and continued up to 1879. In 1877-78, nearly 500 blue gum plants were planted. The total area of the plantation at the end of the year 1879 was nearly 200 acres.

4. In 1874, a depôt was established at Belagumba, a village close to the forest. Fuel and bamboos were supplied to the depôt from the State Forest. The former was sold by cart-loads at Rs. 1-4-0 per cart and the latter at Rs. 2-8-0 per 100. The depôt was in a flourishing condition up to 1879, when it was removed to Tumkur. In 1880, it was abolished.

5. In 1881, the boundaries of the State Forest were altered so as to include nearly 10 square miles more within the demarcation line. This fresh inclusion was sanctioned by the Government, with the proviso that raiyats should not be deprived of their usual right of free grazing in the land proposed to be reserved. Accordingly, fresh lines were cut and the area proposed was added to the State Forest. In 1888, the Doddavadi Betta having nearly 6 square miles was added to the State Forest, thus increasing the total area to 40 square miles.

6. In 1883, a contract was entered into with the Railway Authorities for the supply of railway fuel, and nearly 8,000 tons of fuel were felled and removed up to 1889. The felling was restricted to the area originally reserved or demarcated in 1867-68. The maximum and minimum diameters fixed for trees to be felled were 9 inches and 3 inches respectively. Thus, a regular work was started and was systematically progressed, until almost the whole area of 24 square miles was exhausted.

7. In 1886, a depôt was re-established at Tumkur. Firewood and bamboos were sold at the rates mentioned in para 4. In 1887, contractors were secured for the sale of fuel and licenses were commenced to be issued under Darkhast system for cutting and removing bamboos from the forest. The necessary consequence of the above was that the depôt was again abolished.

8. The Gollahalli Plantation which is situated outside the limits of the State Forest was started in 1887. Casuarina, teak, honné, simé tangadi, sandal and gallnut plants were transplanted. The planting work is being done even now in this plantation.

9. In 1888, the coppice improvement operation with standard was introduced into this forest. Leaving 30 trees per acre, all the remaining teak trees were stated to have been coppiced only in a very small portion of the forest. The total number of trees thus coppiced and removed seems to have been 2,500.

10. In 1889, the forest was found filled with dead branches, the result of felling fuel for the railway supply. To make an advantageous utilization of these branches a depôt was for the third time re-established at Tumkur and all the branches were carted to the depôt, where they were sold at 16 maunds per rupee. In

1890, it was again abolished. In 1892, it was again re-established as a temporary measure. As the transaction therein was very satisfactory yielding an annual surplus of nearly Rs. 2,500, it was made permanent in 1895.

11. It has already been stated that the original area of the Devarayadurga State Forest was 24 square miles and that after long intervals additions were made on two different occasions, having the aggregate area of nearly 16 square miles. Comparatively speaking, the area originally reserved was as valuable as the area first added in 1881, and was many times richer than the area added on the second occasion. It has already been seen that the original State Forest was subject to the heavy felling of railway fuel and also to the unsystematic timber and bamboo fellings, whereas in the newly added area, no departmental fellings of any kind were ever organized. But the former is quite free from all rights, whereas the latter is burdened with the right of free grazing. In 1892, the District Forest Officer made a detailed inspection of the forest and issued his notes on inspection for the guidance of his subordinates. Extracts taken therefrom regarding the condition of the forest are hereto appended for ready reference.

12. In 1892, the forest was roughly divided into compartments and the systematic felling of timber and fuel was organized to be therein made. Already three compartments have undergone the coppice improvement operation under selection system, wherein coppice shoots of both teak and fuel species are now in splendid condition. The dibbling operation was also started during the same year and the total area dibbled up to date with sandal seeds measures nearly 1,022 acres, wherein numerous sandal plants are now to be found to the greatest satisfaction of the Forest Department.

13. In 1893 and 1894, nearly 322½ acres of Inam jungles that had been included within the limits of the State Forest were excluded as per order of the Deputy Commissioner. Therefore, the present aggregate area of the State Forest is 39 square miles and 317½ acres.

14. The villagers residing in the neighbourhood of the State Forest now complain that the "gomal" lands allotted to them during the Survey Settlement have been forcibly taken away by the Forest Department and that the same should be made over to them for the benefit of their cattle. After studying the previous papers on the subject, a memorandum was submitted to the Deputy Commissioner, the copy of which together with that of the Deputy Commissioner's endorsement made thereon, is hercin enclosed for information.

APPENDIX B.

THE MADDAGIRI STATE FOREST was first constituted into State Forest in 1868 and consisted of two distinct tracts of forest, *viz.*, the Maddagiri State Forest Proper and Chikka-Maddagiri State Forest, having an aggregate area of nearly 30 square miles. The former is situated at a distance of nearly 6 miles from Maddagiri and the latter is in continuation with the gomal land allotted to that town. These two forests are separated from each other by an Inam jungle that is in the enjoyment of the residents of Maddagiri.

2. The settlement record of this State Forest is not forthcoming in the Forest Office of the Tumkur District. It is stated that at the time of the settlement the Settlement Officer recognized the right of grazing in the State Forest and ordered that cattle should be allowed to graze in the State Forest throughout the year on payment of fees prescribed by the Forest Department. According to this order of the Settlement Officer, the villagers residing in the neighbourhood of the State Forest have been annually enjoying the right of grazing, even during the fire season.

3. Some 6 years ago, an addition seems to have been made to the State Forest and has been enclosed by the standard demarcation line. This addition chiefly consists of "gomal" lands, about which the villagers have already preferred complaints.

4. In 1893-94, a small tract of forest land by name Kolikal Forest lying at a distance of nearly two miles from the Maddagiri State Forest, was demarcated and settled. The boundary line has been published in the Gazette and mile and furlong stones have already been fixed on the demarcation line. This new tract of reserved land is quite free from all rights and embraces an area of nearly one square mile and 568 acres.

5. Thus, the Maddagiri State Forest consists of three distinct forest lands *viz.*, (1) the Maddagiri State Forest proper, (2) Chikmaddagiri State Forest, (3) Kolikal State Forest and comprises an aggregate area of nearly 31 square miles and 568 acres. The first is encumbered with rights of grazing and has become the hot bed of complaints, in consequence of which it may be stated that this main portion of the State Forest is not in the entire possession of the Forest Department. The last two are free from rights and complaints, but are not so valuable as the first. The establishment entertained for the protection and maintenance of this forest consists of a *Forester* and *seven watchers*.

6. The Maddagiri State Forest proper has been divided into four blocks by the two block lines cut at right angles to each other. These are:—

- | | |
|----------------------------|----------------------|
| (1) Sulka Block. | (3) Kanli Block. |
| (2) Doddaniramulaga Block. | (4) Doddaboli Block. |

The Chik Maddagiri and Kolikal Forests form the 5th and 6th blocks of the forest, the description of each of the above will be found further on.

7. Previous to the inspection of the forest by the Inspector General, which was first done on the 5th December 1887, the felling work had been done in a hap-hazard manner and no re-production work, especially of sandalwood worth mentioning, had been undertaken. Consequently, the Inspector General of Forests issued a memo of general instructions on the method that should be adopted for the regular working of the forest. Soon after, a compartment in Block No. 4 was marked to be operated under the principle of coppice improvement operation. As the forester in charge of the forest was not trained in the Forest School and consequently did not know the principle of coppicing, the operation appears to have been done in a clumsy manner. Owing to the wonderful tenacity teak possesses, shoots came up in numbers and after a time unnecessary shoots were removed and good shoots that were allowed to stand were pruned. In addition to this felling, the felling under license system was encouraged and numerous licenses were issued to the neighbouring villagers who, as a matter of fact, cut and removed teak trees from those places that afforded greatest facility for transport. The result of these two fellings is that in the maidan portion of the forest, teak trees are far apart, crooked, thin and mostly defective, whereas in the hilly portion which is somewhat difficult of access, owing to high elevation and rough ascent, very few teak trees appear to have been felled either by the department or by the license-holders.

8. The condition of crop in this forest is quite dissimilar to that of the Devarayadurga Forest. Though the habit of teak is to grow gregariously and to suppress the growth of other species by the dense layer of its thick and stout nerved leaves, yet, it grows in this forest side by side with other species. The probable reason appears to be that the large proportion of other species has by their united effort, overpowered the weak influence of thinly distributed teak and on account of their accommodating and nurse-like nature has tolerated the latter to share their ground to associate with them. In hill-tops and slopes, the case is just the reverse. Teak has there asserted its independence by growing in groups of various dimensions and seedlings and saplings, which are the result of natural sowing, have carefully-excluded other species from growing with them.

9. The next species that claim importance are Hulve, Chennangi, and Alale. The first two are timber species and have wide distribution throughout the forest. They are stunted for the most part and require coppice and thinning operations for their improvement. Gallnut trees are found in great numbers, so much so that the quantity of gallnut already collected during the year is nearly 1,500 maunds, an unprecedented figure, the greatest collected since the department was organized. Sandalwood trees are few and are to be found only in the Timmegaudanaroppa and Yemmeroppa. The total area dibbled with sandal seeds under bushes from 1892-93 is nearly 721½ acres. On the banks of nalas, seeds freely germinated and the plants are now in good condition, whereas the germination in other places was not very satisfactory. However, good plants are to be found dotted here and there in those places. Small bamboos are to be found in numerous clumps. The presence of big bamboo in Yemmeroppa, that has come up well from seeds sown there some years ago, shows that its introduction is a desideratum.

10. In the Sulka Block or Block No. 1 the only big hill that deserves mention, is the hill after which the block is named. It had been once opened for the felling of railway fuel.

11. Block No. 2 contains the following hills namely:—

- | | |
|----------------------|---------------|
| 1. Chikkaniramulaga. | 4. Goravekal. |
| 2. Doddaniramulaga. | 5. |
| 3. Ichal betta. | |

Anapal and Karakemaradabatti are the two deserted villages included in this block. The assessed lands of these lie waste and are under the control of the Revenue Department.

12. Block No. 3 contains the following hills:—

- | | |
|-----------------|-----------------|
| 1. Kanli. | 3. Udubetta. |
| 2. Kavadatippe. | 4. Tyagada Are. |

Killedar roppa, Yemmeroppa, and Timmegowdanaroppa are the three maidan places. Teak is found throughout the block.

13. The fourth block contains the Doddaboli and Chikkaboli hills and Huvinabhavi and Kenganabhavi plains. Here also teak is found in all the places.

14. The fifth block has only the Chik-Maddagiri hill. It is a mere scrub jungle embracing an area of nearly one square mile.

15. The last block is the Kolikal Block wherein all the species of the main portion of the Maddagiri State Forest are represented.

APPENDIX C.

The boundries of the Huliurdurga State Forest seem to have been first notified in the Gazette on the 10th April 1894. The State Forest then consisted of three blocks, *viz.*, Ippadi, Huliurdurga and Ujjani blocks embracing an aggregate area of nearly 30 square miles. The Ippadi block is not in continuation with the remaining portion of the State Forest, whereas the remaining two blocks have not been separated from each other by a line cut through them. All around the State Forest the demarcation line has been cut to the standard width and mile stones have been fixed.

2. For a number of years this State Forest was in charge of the Forest Officer of the Bangalore District. The transfer of the Kunigal Taluk from the Bangalore to the Tumkur District also affected the transfer of this forest from the Bangalore to the Tumkur Forest Officer.

3. The boundaries published in the Gazette are described only in general terms and as such do not correctly show the position of the demarcation line cut round the forest. Therefore, a revised boundary statement was submitted to the late Inspector General of Forests for publication in the Gazette with the Deputy Commissioner's No. 5, dated 13th July 1895, but it is not known why the publication has not as yet been made.

4. In the Huliurdurga Block a plantation was opened some years ago. On account of the insufficiency, uneven and untimely rainfall, the condition of the plantation is anything but desirable. But these unfavorable natural circumstances may, it is hoped, be successfully overcome by the introduction of irrigation system of planting, since the situation of the plantation is so peculiar as to render this new method extremely successful.

5. The condition of crop in these above named blocks is quite similar. Teak is found only to a very small extent. Hulve, chennangi, chujjalu and kagli have wide distribution. Alale trees are many in the Ujjani Block. Small bamboos are to be found in numerous clumps throughout the forest.

6. In June 1893, a small tract of land now named Kamplapura Block was demarcated and reserved. It is situated at a distance of nearly four miles from the Huliurdurga State Forest and embraces an area of 813 acres and 24 guntas. This new forest seems to be the natural habitat of sandalwood, since sandalwood trees are therein predominating over all other species.

7. The Hulyurdurga State Forest including the Kamplapura Block is free from all rights or privileges and as such it is the only State Forest in this District that is in the actual possession of the Forest Department. Kadaboranahalli is the only village that is inside the State Forest, but the "gomal land" belonging to this village has been marked off on the ground and therefore has been separated from the State Forest.

8. The dibbling of sandalwood seeds under bushes was started in 1892-93 and the total area dibbled up to date is 698 acres. This operation was on a large scale conducted in the Kamplapura Block. The result is not very satisfactory, since sandal plants that had freely come up from seeds, had to struggle hard against the severity of summer and to succumb. However, many plants are now to be found in the Kamplapura Block.

9. In 1892-93, the Ujjani Block had been thrown open for the felling of railway fuel. On account of the mismanagement of the contractor, the felling was conducted over a portion of only one square mile.

10. In 1894-95, a contract had been entered into with one Lingadevaraiya of Cholanayakanahalli of the Magadi Taluk for cutting fuel and removing the same from the forest to Bangalore. The contractor did not work according to the terms of the contract and so his contract was cancelled by the Conservator in his docket No. 2406—99, dated the 23rd January 1896.

11. The total aggregate area of the State Forest including the Kamplapura Block is 31 square miles, 173 acres and 24 guntas and the establishment entertained therefor consists of a forester, three watchers and one temporary watcher.

MEMORANDUM OF INSPECTIONS
OF BANGALORE AND CLOSEPET RANGES, BANGALORE DISTRICT,
FROM 23RD TO 28TH SEPTEMBER 1896.

DATED 4TH OCTOBER 1896.

From the 23rd to 28th September I made a short tour in the Bangalore and Channapatna taluks which would have been extended to Kankanhalli and Satnur, had not the road from latter place to Malvalli been under repair and the river Shamsha in flood.

2. *Inspections.*—On the 23rd, I inspected the *Kenchanhalli block of the Vrishabhavati plantation. The area of the block is stated to be 77 acres, of which 70 acres are classed as stocked and it has been divided into 10 acre compartments with marginal “bits.”

The soil is hard gravel quite unfitted for the growth of casuarina with which it has been planted. It is consequently wretchedly poor and now at 10 years old would not I think yield more than 5 tons per acre on the average, whilst the trees are rapidly dying off.

Sandal dibbling of former years has been fairly successful in the moister and shadier portions, but a large proportion of the seed sown last year and this appears to have failed to germinate. This is attributed to comparative failure of the S. W. Monsoon which may partly account for it, but I am inclined to ascribe it also to bad seed collected from immature and unhealthy trees which must be guarded against.

All attempts at further planting of casuarina or anything else must be abandoned, the dibbling of sandal being persevered with in the hope that the casuarina will live long enough to serve as nurses.

On the 24th, the Kumbalgud State Forest was inspected. Its area is only 1 $\frac{3}{4}$ square miles or about 1,100 acres, although it extends upwards of four miles along the Mysore-Bangalore Railway, the north-east portion especially being only a narrow strip with an irregular outline and very poor growth, having evidently been heavily indented upon for railway and other purposes. Even as it is, its limits can, however, be readily identified by the superiority of the growth to that of the surrounding district forest and inam and gomal lands. Towards the centre and southern end the growth improves and is susceptible of very light improvement fellings under careful supervision.

The prevailing tree-growth is *Buchanania latifolia*, *Anogeissus latifolia*, *Anacardium occidentale*, *Semecarpus Anacardium*, *Terminalia tomentosa*, *paniculata* and *chebuka* (scarce), *Albizia amara*, with Sandal, which appears sickly and stunted, and a few honne (*Pterocarpus Marsupium*), tamarind and satin-wood (*Chloroxylon Swietenia*), and a thorny under-growth of *Randia*, *Canthium*, *Carrissa*, and *Gardenia*.

The block which is said to have been divided into compartments of 100 and 200 acres, of which I could see no trace, is simply honey-combed with cart-tracks and paths, the bulk of which must be closed, if protection is to be anything but a name: with thorough protection and careful treatment, this area may in time be fairly stocked, but it will never be more than a fuel and fodder reserve. Sandal dibbling should be prosecuted, though I am not so sanguine of good results ensuing as Mr. Ricketts in his Inspection Note of January 1891.

* NOTE.—The Vrishabhavati plantation is shown in the return of 1889-90 under Bangalore district, with a ground area of 800 acres and stocked area of 299 acres. This along with some other plantations was transferred to the charge of the Plantation Officer. In the return for 1890-91, I do not see the name of this plantation, but Kenchanhalli Plantation is entered under ‘Plantation Department proper,’ with ground and stocked area—70 acres each.

These discrepancies should be looked into and put right with explanatory note in future returns.

The seed beds in adjoining nursery had evidently not been properly prepared and the seedlings being planted out and watered were puny and sickly. There is much room for improvement in the seed selected, nursery management and planting out arrangements generally in the directions which will be noted further on.

The Hultar State Forest, area 8 square miles, was inspected on the 25th. It is more hilly than Kumbalgud, but the soil and growth are better. Young sandal is plentiful and promising, both self-sown and from dibbled seed. Other species are much the same as in Kumbalgud, but I observed some *Vitex altissima* (Navladi) and *Premna tomentosa* (Narave).

The old plantation, which, as usual, adjoins the forest, is practically a failure, the species attempted—casuarina, honne, eucalypti and teak—being quite unsuitable. Unfilled up pits should be planted with gall-nut and other fruit trees once transplanted in the nursery and all extension of the plantation stopped.

On my way to Closepet from Hultar, I had a look at the Handigundi State Forest on south of road with an estimated area of 30 square miles and the Ramadevarabetta proposed to be reserved for supply of fuel and bamboos, for which it would appear suitable.

On the 26th and 27th I inspected the Mannugudde State Forest, 10 square miles, and found the growth poor with a good deal of *Acacia catechu* (Kagli) and not so many young sandal and honne trees as I expected from Mr. Ricketts' notes.

Sandalwood dibbling is being prosecuted doubtless with some success, but there are no means of tracing results beyond this or last year's sowings. Sandal enumeration is also in progress. Dibbling should proceed systematically, the areas operated on annually being indicated on the ground and maps which will facilitate comparison between them and non-dibbled areas and enable us to distinguish to a certain extent between the dibbled and self-sown trees.

This forest was notified in 1884 apparently without sufficient previous enquiry and settlement by the Revenue Officers. This had led to continuous complaint on the part of the Channapatna and other villagers who have little or no gomal, to remedy which it is now proposed to allow them to graze free in a portion (about 500 acres) of the southern or smaller block to which I have no objection under the conditions proposed by the District Forest Officer in communication with the Amildar who accompanied us with some of the villagers to inspect the tract selected.

The forest is said to have been heavily and destructively worked by contractors for railway fuel supply in past years, of which it bears marked indications. It now requires rest and thorough protection for at least 10 years, within which time, however, the whole area, after being divided into convenient sized compartments, should be subjected to light "improvement fellings" having for their main object the removal of useless trees and improvement of the coppice growth generally and not revenue which will barely cover the cost of the operations if carefully conducted.

There is a small plantation of about 10 acres, known as Hondarkuppe, outside but adjoining the northern and larger block which contains some fine casuarina trees said to be about 16 years old. I do not find the plantation in the annual lists which evidently require careful revision.

3. *Timber &c. Dépôt at Channapatna.*—I examined the dépôt at Channapatna which is financially successful, the sales having aggregated Rs. 11,423 for two years leaving after deduction of collection charges including special establishment, a profit of Rs. 5,239, which is satisfactory especially as there is no doubt the dépôt meets an undoubted want. The bulk of revenue is derived from bamboos the supply of which may, I think, be augmented with advantage. More charcoal—both wood and bamboo—might also, I think, be manufactured. The sales of firewood aggregate a little over Rs. 1,000 a year, of which, if we allow for a share in the dépôt establishment, about $\frac{1}{3}$ rd is profit. The issue of licenses to remove firewood from District Forests appears to have been stopped under orders from the late District Forest Officer, the cause of which has to be ascertained. If the order is retained, the supply of firewood to the dépôt must be increased to meet the demand. If, on the other hand, the order is cancelled and licenses issued, the supply should be left to licensees and private sources with which we should not attempt to compete, but husband our resources till the District and private forests, on which we should keep good watch, are exhausted.

4. *Mudgere Forest Plantations*.—On the 28th I inspected the Mudgere and Kurnagere plantations about 4 miles from Channapatna with an area of close on 400 acres, upwards of half of which has been classed as 'stocked.' But the bulk of this, *viz.*, 140 acres in Mudgere planted in 1886 with teak, honne, matti, bite (rosewood) and such like unsuitable species and 50 acres in Kurnagere planted with casuarina between 1888 and 1892 is naturally a failure and will have to be re-planted, a commencement at which has been made. The same may more or less be said of the portions subjected to cultural operations in the shape of ploughing and sowing sandal and *Cassia florida* seed, whilst on the other hand the ichal or toddy-palm sowing promises well and sandal dibbling under the casuarina should prove successful if greater care is taken in selecting the seed and dibbling it at the right time.

As explained on the spot, I would gradually stock the whole area with species valuable for their products, *e. g.*, gall-nuts, tamarind, mango (good class), jack, toddy-palm and divi-divi, sowing tangadi (*Cassia auriculata*) in between and dibbling sandal seed later on.

I should say that operations may well be spread over 10 years at 40 acres a year thoroughly well done, commencing with the areas already pitted and leaving the casuarina bit, till it is fit to be felled and the sandal trees under it are fairly established.

Good nurseries should be laid out and seed from mature trees and carefully examined only used, the seed being sown in March, seedlings transplanted into other nursery beds or pots in July and planted out at end of September or early in October (according to the rains), when they should be well grown and rooted and have a fair chance of establishing themselves before the hot dry weather. The ditch and fence should be put and maintained in thorough repair. In this manner, I believe, that this area, which is very conveniently situated, of sufficient extent and with better soil than most of our so called plantations may be well and profitably stocked and I request that estimates for the work on the above lines may be prepared and submitted for previous sanction and allotment of necessary funds under "formation" and "up-keep" annually. A forecast of total expenditure including interest on capital outlay and probable financial results should accompany and justify the estimate.

5. *General conclusions and Suggestions*.—My general conclusions as the result of this brief inspection may be summarized as follows:—

(a). *State Forests*.—Those visited cannot and will not during the present generation at least be worthy of the name of "Forest" as generally accepted, but can be accurately styled and profitably treated as "Fuel, fodder and sandal reserves" to be worked, except of course as regards the sandal, *first*, to meet local village requirements and *second*, the supply of considerable villages or towns like Channapatna, Closepet and even Bangalore from the surplus produce when there is any.

Having been overworked under no proper system, they require most careful treatment in order to improve the existing growth and gradually replace it by a better, both from coppice and seed.

This necessitates, after light improvement fellings and in some instances cultural operations,—*e. g.*, breaking up the soil and broad-cast sowing and dibbling—to restock denuded areas, absolute protection and rest, fire, cattle and people being rigidly excluded (except a long-recognized right-of-way) for some years. This will doubtless entail some hardship in individual cases and a good deal of general complaint, protection, except with regard to actual cutting and not always with regard to that, having hitherto been more nominal than actual. But it is the only way to secure good and adequate results, which, if the protection and proper treatment are persevered in, will speak for and justify themselves.

On the other hand, there is a good deal of grass which might, I think, be made available for cutting or pasturage of cattle (*not goats*) at moderate or nominal prices to the neighbouring villagers *before* the 'improvement fellings' or 'cultural operations' take place and during such operations preference should be given to such villagers, both as regards supply of labor and removal of the produce, at moderate rates and even free, if for *bonâ fide* own use of raiyats.

In this manner and by the exercise of a little tact and consideration on the part of District Forest Officer, Range Officer and their subordinates, the feelings of the people towards the department and its operations may, it is hoped, be gradually altered and in any case it is the right course to pursue.

6. *Plantations.*—My views with regard to most of our plantations have been stated in previous. Inspection Notes and the report which led (partially) to the abolition of the Special Plantation branch. Those I have just seen form no exception to what I have found to be the rule. Bad or indifferent soil taken up generally without any definite object, only because it was so bad as to be unfit for the cultivation of cereals, pitted at great expense and planted with unsuitable species, generally exotics, reared from carelessly selected seed in badly prepared and managed nurseries and subsequently inadequately protected from cattle trespass and subjected more or less to cruel treatment under the name of pruning or lopping.

I would abandon all areas, the soil and situation of which are absolutely unsuitable for the growth of trees or retain them merely for the growth of ichal, tangadi, bandare and grass and arrive at definite ideas as to the treatment of the other plantations before spending any more money on them except for maintenance.

This involves the consideration of requirements or demand, what the soil and climate are capable of growing, and cost of formation and maintenance with establishments and compound interest on outlay till the produce is fit for sale.

It will be found that we can rarely, if ever, afford to grow firewood (certainly not casuarina) artificially, that sandal can be better reproduced naturally or by dibbling under shade and that the growth of most exotics, except on quite a small scale as experiments, is not practical forestry.

It must not be supposed that I am averse to all artificial planting as compared with natural reproduction. Quite the contrary: under favorable circumstances and suitable conditions, there is no doubt of the advantages of the former system, under which the work is more condensed, can be better supervised and should yield a far better return per acre whether in the shape of major or minor produce.

All I want to impress on District Forest Officers and Deputy Commissioners is the necessity for careful consideration and counting the cost and probable financial results *beforehand*, which can only be secured by framing estimates based on actual facts and figures and subjecting them to overhaul and criticisms by the professional Head of the Department, who should take a general, not local, view of such proposals and require each to be justified before according sanction.

Whatever plantation work is sanctioned cannot be done too thoroughly and well. The collection, examination and storage of seed, preparation of nursery beds, sowing, transplanting, planting out, watering and subsequent treatment are all matters, on careful attention to and experience in which the success of planting operations mainly depends. Needless to say there is room for great improvement in those respects in Mysore as elsewhere and it is my duty and that of all District Forest Officers to endeavour to secure it. It will be observed that I advocate, as a rule, the planting of trees valuable for their products. I do so from my experience that neither timber nor firewood plantations can be profitably raised *except under special conditions*, such as exist in the case of the Teak Plantations at Nelambur, Malabar, the Casuarina Plantation in North and South Arcot and Nellore, the Eucalyptus Plantations on the Nilgiris in the Madras Presidency and the Sissoo Plantations at Changa Manga in the Panjab.

On the other hand, indigenous trees, such as gall-nuts, tamarind, jack, mango and palms, shrubs like the tangadi and established exotics like divi-divi, can be grown with ordinary care in the selection of sites and proper treatment throughout the Mysore plateau and apart from the value of some of them as timber, the products are always in demand and with anything like economical management ought to yield sooner or later a fair return on the outlay. I have no doubt that an area of sufficient extent, like that of Mudgere and Kurnagere referred to in the above notes, can be most profitably stocked with such trees and shrubs, whilst we convert a barren waste into a tree-clad plot or strip with great advantage to the climate and surrounding cultivation.

7. *Forest and Revenue Officers seen.*—The District Forest Officer Mr. Muthappa, a most painstaking and intelligent officer, accompanied me throughout my short tour along with the Range Officers H. Ramaiya and A. Narasappaiya within

their respective Ranges (Bangalore and Closepet), the Kakanhalli Range Officer M. Subba Rao joining us at Channapatna in anticipation of my projected visit to the Range. I think Mr. Muthappa, having gained a general knowledge of the district to which he was posted only last June, should now visit and spend some time in each Range, organizing it, giving instructions as to the treatment of each State Forest, selecting new areas for settlement and reservation, &c., and that the Range Officers should deal in the same manner under his instructions with each Forester's charge and bring them under thorough control.

The Range Officers should be supplied with best maps (Taluk and Topo sheets) available. Although I was not favored with the company of the Deputy Commissioner, I had the advantage of meeting the Sub-Division Officer Mr. Puttanna Chetti at Closepet and conferring with him on forest matters. I am also indebted to the Amildar and Deputy Amildar of Channapatna taluk for information, suggestions and attention during my stay in that taluk.

I. CAMPBELL WALKER, COLONEL,

Conservator of Forests in Mysore.

MEMORANDUM OF INSPECTIONS, MYSORE DISTRICT,
2ND OCTOBER TO 5TH NOVEMBER 1896.

During the above period I was on tour in the Mysore district, entering it *via* Kollegal and leaving from Chunchinkatte in the Yedatore taluk.

2. *Chamrajnagar State Forest*.—The first part of my tour was devoted to an inspection of the Chamrajnagar State Forest (estimated area 98½ square miles) which comprises the western slopes of the Biligirirangan Hill Range with a belt extending to, and at the eastern end across, the Mysore-Hassanur high road.

Ascending by a very steep road from the Yellandur Jahgir to the Jahgirdar's bangalow at Biligirirangan (4,100 feet) I traversed the hills to Attikan (5,400 feet) on the Kollegal side and after a good look at the "Malai Kadu" descended *via* Bedaguli Estate (4,400 feet) to Punjur (2,400 feet) and thence to Attikalpur and Chamrajnagar *via* Budipadaga, thus acquiring a good general knowledge of the forest growth, both at the higher and lower elevations.

The forest is not rich in timber of the best descriptions: teak, rosewood and honné being comparatively scarce and of poor growth; and the same may be said of sandal, of which there are however some good specimens in the neighbourhood of Punjur. Matti (*Terminalia tomentosa*) and alale (*Terminalia chebula*) are fortunately pretty frequent as are the so called cedars (*Cedrela toona*, *Acrocarpus fraxinifolius*, *Chickrassia tabularis*, *Soymida febrifuga* and doubtless *Melia dubia*). Dindiga (*Anogeissus latifolia*) is probably the most prevalent species whilst Huragalu satin wood (*Chloroxylon swietenia*), narave (*Premna tomentosa*), kuli (*Gmelina arborea*); and nauladi (*Vitex altissima*), occur frequently along with bamboos both *Arundinaceae* and *Dendrocalamus*.

The outer belt and lower slopes have been heavily indented on and require rest and cultural operations in view to the regeneration of the better classes of trees which, under the system or want of system hitherto pursued, are becoming almost extinct. The higher slopes and valleys have so far not been much trenched on, in which they differ from those in the adjoining Jahgir, and should be developed by opening out a good system of roads by the aid of which and elephants considerable quantities of timber could be placed on the market without detriment to the forests, whilst the collection of gall-nuts and other minor produce should be systematized and brought under direct departmental control. I have strongly urged on Government the necessity of opening out communications.*

The demand on this forest has hitherto been comparatively light; but even so, unregulated fellings, the absence of reproductive measures, excessive grazing and, until recent years, annual fires have gone far to ruin the outer and more accessible portions.

Cultivation is extending and the advent of a Railway up the Hassanur ghat is merely a question of time and with it conditions will materially change. Portions of the forest suitable for cultivation may have to be disafforested and the remainder be heavily indented on both for timber, bamboos and fuel. The sooner therefore it is thoroughly explored, divided into blocks and compartments, and managed systematically under the prescriptions of a simple working plan the better; the chief considerations being the regulation of fellings and grazing so as to secure regeneration and a sustained yield. The growth of sandal in the outer belt and adjoining district forests should be carefully protected and fostered, whilst any mature teak trees remaining must be reserved as "Seeders" and measures taken to secure reproduction, both natural and artificial, in which and in the collection of the minor produce the services of the jungle tribes should be enlisted. The Gundal Range in which the forest is at present comprised is really too large and scattered for one Range Officer to supervise effectually and will have to be split into two, the Chamrajnagar Forest and depôt being really ample for one Range Officer who might however also supervise the Nanjangud Depôt, a duty which is at present performed by the District Forest Officer himself.

[*Note.—This has since been sanctioned in Government Proceedings No. 6117-18—Ft. F. 10-96, dated 6th January 1897. (1d) I. C. W.]

such cases it is only right and proper for the settlement Officer and Deputy Commissioner as head of the district administration to represent matters and objections raised by the people, but the final decision is the prerogative of Government.

The Hosur Marigudi Plantation near Bilikere on the Hunsur-Mysore road contains the elements of success. It was started in 1891-92, extends over 250 acres and has cost Rs. 1,008 but does not appear in the list for 1894-95. The growth of sandal is decidedly good or much better than usual though the *Sime konne* sown as nurses has failed and the young sandal sadly wants lateral shade. The gall-nuts planted will, I fear, never do any good having been transplanted when too small and badly rooted. It is most difficult to suggest what to try now when the area is partially stocked but I would experiment with topali (*Acacia leucophlœa*), rain tree (*Pithecolobium saman*), divi divi (*Casalpinia coriaria*) and encourage the growth of toddy palms and palmyras and the tangadi shrub. The well in the plantation should be cleared out and a forest lodge or watchers-hut erected as the nucleus for a forest station. If possible adjacent areas should be taken up and the District Forest Officer should ascertain from Excise Department why so many of the toddy trees are not tapped.

I inspected the Hunsur sandal koti and wood yard, which latter is badly supplied with timber, for which there is a good demand especially for cart and wheel making, for which refuse teak and bonné in the adjoining Heggaddevankote and Sargur Ranges should be worked up as suggested by Mr. Theobald.

7. *Mysore Taluk Inspections.*—I inspected the cultural operations in shape of sandal dibbling at foot of Chamundi Hills. The results are fairly good but would be much better if the Palace cattle might be restricted to certain portions at a time and the Amrut Mahal cattle, which appear to be brought there at certain seasons for branding, excluded altogether.

Operations have been in progress since 1891-92, extend over about 1,000 acres and have cost up to end of last official year Rs. 2,426, the establishment maintained, *viz.*, one mestri and three watchers being rather high. The watchers ask that uniform or some badge of office may be given to them which appears reasonable. The mestri attends to Yelwal also.

Operations at Yelwal were also started in 1891-92 and extend over about 115 acres within the Residency compound. They have cost Rs. 1,852 and can only be classed as moderately successful, the sandal growth in the lantana being good but a complete failure in the open.

More thorough protection of recently sown areas is required especially with regard to goats and there is no excuse for fire such as occurred last year.

The Yegachahalla Plantation so called is really a hill side or valley about two miles from Yelwal more or less overgrown with lantana and bandari (*Dodonaea viscosa*) with a fine date grove in lower portions.

This is an object lesson in how to succeed by following nature, as Kurgahalli and Bastipur in the Seringapatam taluk are object lessons of how not to do things. Cultural operations were started by the Revenue Department in 1891-92 and taken over by the Forest Department in 1894. The area operated upon is about 50 acres and the cost has been under Rs. 100.

The young sandal trees are abundant and healthy and I see no reason why the reproduction should not be extended outwards in strips, care being taken to preserve the undergrowth as shade and protection to the stems only removing climbers. The date grove should be retained within the limits of the area to be notified and protected, dibbling operations being conducted systematically, different areas being operated upon year by year and results carefully noted. A survey and maps are required.

8. *Seringapatam Taluk Inspections.*—In addition to the sandal koti inspected from Mysore I inspected the Kurgahalli and Bastipur Plantations from Yelwal. These plantations were started by the Forest Department in 1891-92 and 1892-93 respectively, handed over to the Revenue Department in 1894, and taken back by the department last year.

Their total area is 141½ acres and they have cost Rs. 3,337. Neither appears in our list for 1894-95.

The former contains a certain number of dwarfed sickly looking trees struggling for existence on an exposed barren situation without any other tree growth,

whilst the latter is almost entirely bare except in the date grove where dibbling has proved fairly successful. The attempt to rear sandal on bare areas by cultural operations, such as sowing in furrows and broadcast with *Cassia florida*, has proved a failure here as elsewhere and must be abandoned. The question is what to do with such barren areas on which considerable sums of money have been expended. I can only suggest experimenting with rain tree, topale and tangadi and perhaps planting out well established gall-nuts in suitable sheltered localities. In places where there are date groves as in Kurgahalli we must retain them utilizing the dates as shade and protection under which sandal thrives and at same time getting a revenue sufficient to cover cost of establishment, to which expenditure should be restricted, by letting the trees for tapping and sale of leaves, dead and unproductive trees, grass, &c.

9. *Yedatore Taluk Inspections.*—On my way from Yedatore to Chunchinkatte I inspected the Kanchinahalli kaval of about 100 acres in which there is a fair firewood growth which might be greatly improved and a good growth of grass secured by adequate protection. The grass outside is leased out under Hulbanni and the lessee charges a good deal more than annas 4 per head of cattle I am told. We should allow a limited amount of grazing on payment of moderate fees to neighbouring villagers and secure their co-operation and good will if possible at any rate improving and utilizing the grass which is otherwise destroyed by fire which entirely precludes the reproduction of sandal.

10. Whilst at Mysore for the Dasara Representative Assembly I inspected the District Forest and Khedda offices. The following are my notes on the former, those for the latter which occupied two days in inspection having formed subject of a special report to Government.

MYSORE DISTRICT FOREST OFFICE INSPECTED 31ST OCTOBER 1896.

Monthly Returns.

Return of cheques issued.	Posted to date.
Working charges bills.	Posted to end of September. Submitted 30th October.
Plantation progress return.	Discontinued.
Cash balances outstanding against Forest subordinates.	Posted to end of September, the amount outstanding on that date being Rs. 30,869-4-10, which is explained to be chiefly current or new advances for the preparation and carting to depôt and kotis of timber and sandal which are not adjusted till depôt or koti receipts are obtained. This is a faulty system open to grave abuse and must be altered.
Detailed contingent bill.	Posted to end of June but not dated.
Officers' travelling allowance bill.	Rough copies or drafts with draft of journal kept in bound books.
Establishment batta bill.	Maintained posted to end of September.
<i>Stock Accounts.</i>	
Return of trees, &c., felled in forests.	Maintained.
Return of logs, sleepers and other scantlings cut and exported including bamboos.	Not maintained.
Return of timber, &c., collected, sold and remaining at depôts.	Posted.
Return of sandalwood, &c., collected, sold and remaining at depôts.	Posted.
Return of Minor Forest Produce do	Posted.
Return of licenses for felling timber, &c., in protected forests.	Not maintained but for bamboos in Sub-division and Range office.
Return of timber, firewood, &c., carts passed into towns.	Not maintained.
Return of live-stock, such as bullocks, elephants and the like.	Not maintained. Only one elephant.

**Memorandum of Inspections, Hassan District, from
6th to 23rd November 1896.**

Mr. Bapu Rao, the District Forest Officer, met me at Chunchinkatté on the 5th November and we arranged a programme which was fairly well adhered to throughout.

2. Arkalgud Taluk inspections.—From a camp at Ramanathpur, I inspected the Gobali State Forest demarcated and notified in 1892-93 having previously formed part of an Amrut Mahal Kaval of the same name. The growth is chiefly dindiga (*Anogeissus latifolia*), cheninge (*Lagerstræmia Parviflora*), *Acacia catechu* and sandal with gall-nut (*Terminalia chebula*) in patches. The gall-nut trees are small but bear a fair crop whilst the sandal growth, which is pretty evenly distributed throughout a valley comprising about half of the area, is promising.

At present the grazing during the non-fire season is leased out and realised Rs. 136 last and Rs. 142 this year. Under recent orders of Government this practice will, I presume, have to be stopped and arrangements made to allow a limited number of cattle to graze on payment of fees or close the area against grazing entirely. This would doubtless improve the tree growth and cover but result in a dense growth of grass and irritate the people who might set fire to it though they appear to have ample grazing outside. Further consideration of this matter is necessary before any new action is taken.

I next went to Viziapur *via* Arkalgud and inspected the Viziapur State Forest notified in 1889, though it appears to have been more or less under conservancy since 1872 when it was taken over from the Amrut Mahal Department. As now demarcated it consists of 3,200 acres, of which 300 have been subjected to various cultural operations at considerable expense (Rs. 1,815 since 1888 before which there is no record) without any adequate results.

The natural tree growth is fair comprising sandal, in some quantity but of in different growth, Teak, Honne and Bité (rare) and Matti, Hulve and Alale (*Terminalia tomentosa*, *paniculata* and *chebula*) pretty frequent. Along with the above is a good growth of firewood-yielding-species, *e. g.* *Anogeissus latifolia*, *Buchanania latifolia*, *Semecarpus Anacardium*, *Bridelia retusa*, *Dalbergia paniculata*, *Odina wodier*, *Butea frondosa*, *Diospyros tuperu*, &c.

There has evidently been a good deal of felling in an unsystematic manner which with heavy grazing, and apparently unlimited trespass, has not been conducive to improvement. Indeed the growth on the gomal lands of Masvatur and Bubgalale which adjoin, is if any thing better than in the State Forest a fact ascribed by the District Forest Officer to their having far more than they can possibly utilise which they guard jealously against others.

The Forest subordinates did not show sufficient knowledge of the Forest through which there is a cart track over which a good deal of traffic appears to pass though no such track or right of way is shown on the map. I would divide the whole area into conveniently-sized blocks to be worked in rotation by light improvement fellings or cleanings to commence with, after which each should be closed against grazing and rigidly protected against fire and trespass for some years during which dibbling sandal, &c. should be prosecuted by the agency of the Forest staff under proper supervision. There is no objection to the cutting of grass or limited grazing in the open portions, *i. e.*, those not under treatment as above indicated.

It is worth while taking some trouble with the Viziapur Forest which forms a compact block of about 5 square miles as there is a great dearth of wood of all descriptions to the east of it, which is proved by the District Forest Officer having recently sold 50 casuarina trees of no great size in the adjoining Taluk at an average of Rs. 8 per tree, but efforts to be successful must be well matured and sustained and take the direction of assisting natural reproduction not supplanting it by artificial and costly planting operations. I suggested cutting and storing the grass in

shape of hay or ensilage and letting the people have it free or at nominal rates later on in the season when other pasturage is scarce. On my way from Vizianpur to Gorur I inspected a portion of waste land formerly Amrut Mahal Kaval handed over to the Revenue Department and applied for for cultivation. It contains a good many gall-nut trees in bearing but not sufficient in my opinion to justify its refusal for *permanent* cultivation, but I suggested an arrangement under which the usufruct of the trees or the bulk of them might be reserved to Government.

The contrast between this tract which has been left open to grazing since its transfer and that of the adjoining Amrut Mahal Kaval is very marked, the former being quite bare whilst the latter is covered with a fine growth of grass, the dividing line, though unfenced, being clearly defined by the difference in growth which seems very creditable to the Amrut Mahal subordinates.

3. **Hassan Taluk inspections.**—From Hassan I inspected the Gandikatte Plantation and Burdalbore State Forest. The first is classed as a "sandal reproduction block" with an area of 300 acres. It was opened by the Revenue Department about 1874 and taken over by the Forest Department in 1888-89 since which time a good deal of money (aggregating over Rs. 6,000 *ab initio*) has been spent to very little purpose in endeavouring to rear sandal, casuarina, mangoes, eucalyptus, &c., under unfavorable circumstances and without sufficient discrimination. From its proximity to Hassan (3 miles off) it is valuable if only for the grass the right to cut and remove which has realised Rs. 200 per annum on an average for the past three years and should certainly be retained and notified. As casuarina is so valuable in Hassan I would try some in 3 feet cube pits wherever the young sandal appear capable of resuscitation by light shade and careful pruning, retain the eucalyptus in the swampy portion and supplement it with bamboos of good varieties. Beyond this and dibbling sandal wherever there is any shade I would stop all planting and expenditure and regard the block mainly as a fodder reserve.

Burdalbore Plantation, originally an Amrut Mahal Kaval, which was demarcated and notified as a State Forest last year with an area of 1,917 acres, is well situated in a basin or catchment area about 6 miles from Hassan, the protection of which cannot fail to do good. About 56 acres are stated to have been stocked with Casuarina, Teak, Honne and Silver oak (*Grevillea-robusta*) but the growth is very poor especially of the Teak and Honne which are quite unsuited to the locality. I would retain the casuarinas and silver oaks if only as nurses to the sandal, dibbling of which under shade should be prosecuted in the 300 acres set apart by the District Forest Officer and leave the rest to nature relying chiefly on the annual yield from grass the right of cutting which has realised Rs. 481, Rs. 817 and Rs. 850 respectively for the past 3 years. The scanty scrub, chiefly Bikke (*Gardenia gummiifera*) was, until recently, being cut and taken to Hassan as fuel, but this has very properly been put a stop to by the District Forest Officer. A few years complete protection against cutting, trespass, and fire will work wonders and in time the whole area may be clothed with scrub and a fair show of sandal. The expenditure so far has been Rs. 5,232.

4. **Byaba State Forest and Lac propagation.**—On my way back from Manjarabad I inspected the Byaba State Forest which is also an abandoned Amrut Mahal Kaval situated close to the Hassan-Mangalore high road about 9 miles from the town of Hassan and 2 miles from Alur, the Sub-Taluk Head Quarters, from which a cart road passes through the Forest to Arkalgud.

This tract was taken up by the Department in 1891-92 and notified as a State Forest in 1895. It consists of 1,400 acres, the boundaries being indicated by a cleared line $8\frac{1}{2}$ miles long and 22 yards broad and has been divided into 8 unequal-sized blocks by narrow cleared lines.

The chief growth is Jalari (*Shorea Talura*) which occurs in patches and is stunted and fit only for the propagation of the lac insect which is being prosecuted with comparatively poor results as the field of operations is too small. Comparatively large areas of District Forest containing Jalari in the Hassan, Belur and Arsikere Taluks, are being leased out in the Revenue Department for nominal sums (Rs. 50 or 60 annually) to contractors who have neither the capital nor the energy to develop their natural resources. This should, I think, be put a stop to and measures adopted

to extend the industry in the Hassan District is not in an experimental stage, but and in the hands of a District Forest Officer, like Mr. Bapu Rao, contractors being interested in and has a special knowledge of it, is capable of assuming profits. The dimensions and proving remunerative, both to Government and the well-established trust to Mr. Bapu Rao working out details and to the Deputy who takes an interest to give the scheme effect with his assistance. The Forest also contains considerable quantities of a few *honne* and *bite*, but their growth is stunted. *Bilvare* (*Albizzia* *matij*, *alale*, *odoratissima*) which yields a good timber is pretty frequent and its growth should be encouraged. There is also a certain amount of inferior growth capable, under protection, of yielding second class timber and firewood, *e. g.*, *Nerle* (*Eugenia Jambolana*), *Hulave* (*Terminalia paniculata*), *Dindiga* (*Anogeissus latifolia*), *Channangi* (*Lagerstræmia parviflora*), *Gorave* (*Ixora parviflora*), &c. The Forest is surrounded by flourishing villages and the pasture is therefore in great demand, receipts from this source having amounted to Rs. 494, Rs. 670 and Rs. 708 respectively for the past three years. A certain amount of firewood is also removed to Hassan, to supplement which about 110 acres have been stocked with *casuarina* which is doing fairly well and may with advantage be extended beyond which I would trust entirely to thorough protection to improve the growth securing meanwhile a revenue from the lac, gall-nuts, and grass to recoup the expenditure which has amounted to Rs. 3,078 to end of last official year.

5. On my way to Hagare I had a look at the Sigadagudda State Forest, 8 square miles, notified last year. This Forest also contains *Jalari*, on which lac is being cultivated by the Taluk lac contractor, to whom the lease was granted before the area was constituted a State Forest, and other trees of the descriptions noted above. The growth is poor but capable of great improvement under thorough protection.

The whole of the original kaval should have been included in the State Forest and steps should now be taken to extend the limits so as to include the whole chain of hills towards Arsikere for supply of fuel and pasture and regulation of the water as it forms the catchment area of the Halebid and other large tanks both to the north and south. In settling such areas a broad distinction should be drawn between Rights and Privileges, the former of which must be admitted and provided for, whilst the latter, if recognized at all, can always be regulated and enjoyed only subject to good behaviour.

Hagare State Forest, notified in 1895, is also an abandoned kaval of 655 acres demarcated by a cleared line $5\frac{1}{2}$ miles long and 22 yards wide which the District Forest Officer is supplementing by a ditch and also fence.

The natural growth is scanty consisting chiefly of *Alale* and *Hulave* (*T. chebula* and *paniculata*) in patches and some fine specimens of young sandal here and there. About 100 acres appear to have been set aside for planting purposes, out of which about 33 were operated upon *Casuarina*, *Teak*, *Honne*, and *Nandi* (*Lagerstræmia lanceolata*) having been planted out and sandal dibbled under bushes. These operations together with establishment charges and part of the cost of the trench and fence have aggregated Rs. 1,800 in round figures to end of last official year, whilst grazing leases have brought in Rs. 535, Rs. 690 and Rs. 702 during past three years.

Only cutting of grass is allowed in the 100 acre-block above referred to, the right to which was sold for Rs. 22 last year. Deducting that amount from Rs. 702 it will be seen that Rs. 680 were obtained for the remaining 555 acres, representing Re. 1. As. $3\frac{1}{2}$ per acre, which is a good rental exceeding the assessment on similar land under cultivation and at least equally beneficial to the people.

6. Hassan Sandal Koti and Office inspection.—I inspected the Sandal Koti which consists of a number of detached buildings quite unsuitable for the purpose. The District Forest Officer now brings in all his sandal without jungle preparation and more than covers the extra cost of carriage by sale of white wood as firewood, whilst securing a better out-turn and quality (*i. e.* freshly cleaned), avoiding loss in

to extend the lac propagation neither by direct Government Agency nor through contractors but by dealing direct with those who understand and carry on the industry giving them facilities for obtaining fresh brood lac and a share in the profits. The industry in the Hassan District is not in an experimental stage, but well-established and in the hands of a District Forest Officer, like Mr. Bapu Rao, who takes an interest in and has a special knowledge of it, is capable of assuming considerable dimensions and proving remunerative, both to Government and the cultivators. I trust to Mr. Bapu Rao working out details and to the Deputy Commissioner to give the scheme effect with his assistance. The Forest also contains matti, alale, a few honne and bite, but their growth is stunted. Bilvare (*Albizzia odoratissima*) which yields a good timber is pretty frequent and its growth should be encouraged.

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preparation and chances of fraud through sale of small wood commends itself for general adoption wherever similar circumstances (i. e. demand for firewood) exist and even if cartage and preparation cost a little more, the other advantages referred to should be carefully considered before it is rejected. When there are proper Ranges with reliable Range Officers the preliminary more, the other may perhaps be done at Range Head Quarters. I inspected the site of proposed kotu which is suitable, but the plan may, I think, be amended with any preparation provide office accommodations, separate yards for weighing in site of proposed trolleys, weighbridges, and a siding from the proposed Railway, advantage so as to which will adjoin the new kotu, I have addressed the Chief Engineer and out, with asking him at the same time to expedite commencement of the work. the terminus of on the subject

I inspected the District Forest Office which is poorly housed and and made the following notes:—

under-handed

District Forest Office, Hassan, inspected on 12-11-96.

Return of Cheques issued.—Posted for September. The entry of consequence and works, expenditure on opposite side, appears meaningless and no District Forest Officer can give me any reason for it. Corrections should be initialled by District Forest Officer.

Working Charges Bills.—Posted for September. Corrections should be initialled by District Forest Officer.

Plantation Progress Returns.—Abolished.

Cash Balances outstanding against subordinates.—Posted for September. The amount outstanding at end of that month is Rs. 10,272-4-4, of which Rs. 1,679-15-10 is shown as disbursed but not adjusted and Rs. 8,592-4-6 as cash to be accounted for. The same system obtains as in Mysore, viz., that accounts for timber, sandal, &c., work are not admitted till the produce is actually lodged in sale depôt and the depôt or kotu receipt obtained—it is a faulty system and leads to the accumulation of large advances and difficulty in adjustment.

Detailed Contingent Bill—Posted to end of August.
Officers Travelling Allowance Bill— Do. do.
Establishment Batta Bill— Do. do.

Stock Accounts.—The stock returns, as per list, with the exception of 2 and 8 are maintained and posted up to end of August. The sandalwood account No. 4 includes every little tree felled whether it is workable and contains heart wood or not which swells the number to 19,000 though the out-turn is only 113 tons and odd.

1. Return of trees, &c., felled in Forests.
2. Return of logs, sleepers and other scantlings cut and exported including bamboos.
3. Return of timber, &c., collected, sold and remaining at Depôts.
4. Return of sandalwood, &c., collected, sold and remaining at Depôts.
5. Return of Minor Forest Produce remaining at Depôts.
6. Return of licenses for felling timber, &c., in protected Forests.
7. Return of timber, firewood, &c., carts passed into towns.
8. Return of live stock, such as, bullocks, &c.

A separate return is received from Foresters and others of trees uprooted and under preparation and abstract of this also is submitted to Head Office.

Form No. 7, Timber, Firewood, &c. passed into towns—is maintained but as there is no checking establishment it has no claim to accuracy.

Live Stock.—Nil.

Revenue Accounts—Return of sales.—Posted for August. September's return in progress. Forest subordinates and others have to obtain advice or remittance notes before sending money to nearest Treasury which causes delay.

Demand, Collection and Balance Statement.—Posted and verified by Treasury Officer for August. September figures not yet ready. Said to be delayed on account of Dasara holidays.

Miscellaneous.—Unanswered references.—Maintained and posted to end of August but not yet passed by District Forest Officer and apparently incomplete.

Sales—*Return of timber, &c., sold by public auction.*—Not properly submitted.

Return of sandal sold by public action.—Maintained.

y Returns.—*Application for letters of credit.*—Posted.

ores, tools and plant and office furniture.—Maintained in separate sheets but should be in bound book.

ooks—*Library.*—Maintained in bound book.

of Forest Offences.—Not maintained or submitted.

seems in fair order but indifferently housed and Head Clerk might be Some additional office furniture is required. District Forest Officer uses writing table.

Manjarabad inspection.—The chief object of my visit to Manjarabad was confer with planters and judge for myself with regard to necessary reservations in connection with the regulation of the water supply ordered by Government. I met several European Planters including Mr. Robert Anderson, one of the oldest, at the Ossoor Estate and found that they were practically unanimous that so far the water supply in rivers and streams had not been injuriously affected.

The Assistant Commissioner, Saklespur, Mr. Bowring, brought to my notice a typical case in Mr. Hunt's applications which I visited and on which and a subsequent meeting with Mr. Harris, Secretary of the South Mysore Planters' Association, special report has been submitted to Government with the recommendation that a special Forest Officer Mr. G. E. Ricketts be deputed to explore the Ghat Forests and select areas for reservation. The wood lands which I inspected, forming Mr. Hunt's applications, consisted of deciduous and semi ever-green "sholas" containing few trees of any value as timber with a dense undergrowth of *Strobilanthes*. The latter only is cleared in the case of cardamom cultivation which may, I consider, be carried on without detriment to the water supply and with advantage to Government under a system of forest leases. But all such "sholas" situated on the head waters of streams should be reserved and retained in the hands of Government, whilst other wood lands lower down may be alienated for permanent cultivation with coffee, tea, cardamoms, &c. I explained my views to the District Forest Officer and Mr. Bowring on the spot and, if adopted by Government, think they will secure all we require and be acceptable to planters generally.

8. State Forests on Ghats.—Time did not admit of my visiting the State Forests on the ghats, known as Kemphole, Kaganeri, Kabbinala, and Bisle, which are extensive and difficult of access. So far they are quite safe from any felling but it is doubtful whether fire does not enter more than is generally supposed from the adjoining grass lands which are burnt annually. A thorough investigation of this point will form part of Mr. Ricketts' duties, if detailed on special duty, also careful observation of the quantity of water in springs and small water courses which are said to run during the dry months and dry up during the rains. With greater knowledge of those matters and with regard to the descriptions and quantities of timber trees and minor products available we can decide to what extent working will be advisable and remunerative and what roads, &c., are necessary to develop the Forest resources which are undoubtedly of great value and so far almost unknown.

9. Belur Taluk inspections.—Returning to Hassan I went *via* Hagare, already referred to, to Halebid and Belur.

Close to Halebid is the Kallibore Kaval, formerly in charge of the Amrut Mahal Department, but notified by late Inspector General as reserved in 1895, though not yet notified by Government as a State Forest. Its area is about 1,000 acres with a very scanty tree growth, chiefly *Acacia catechu*, with a little sandal on the outskirts of the hill.

It is really a fodder reserve, receipts from sale of pasturage having risen from Rs. 295 in 1894 to Rs. 745 in the current year. About 300 acres were recently applied for for cultivation, but the late Deputy Commissioner on District Forest Officer's advice declined to grant it as it is more useful as a fodder reserve and there

is other land available for cultivation. The District Forest Officer is of the opinion that the application for cultivation was only a pretext and that, had it been obtained, they would have retained or leased it out for grazing at a low rate.

It seems preferable in all respects that such areas should be under Government control who can deal with them as it thinks best in the interest of the community at large.

On the way from Halebid to Belur I had a look at the Kalhalli with adjoining areas, should, I think, be brought under protection. The growth is kaghi (*Acacia catechu*) but there is a good deal of sandal. The District Forest Officer remarked as the area or zone of sandal supply is circumscribed by extension of cultivation, we can no longer rely on the bulk of our supply from District Forests and waste lands but must rely on State Forests for the supply of the future.

At Belur, I was favored with a visit from Mr. Harris, Secretary, Mysore Planters' Association, with whom I had a long conference on plantation matters as affected by Forest Reservations and rules and believe, I may say, we are quite in accord.

10. Officers seen, &c.—The District Forest Officer, Mr. Bapu Rao, a most intelligent and energetic Officer, accompanied me throughout my tour. I saw and conferred with the Deputy Commissioner, Mr. B. G. Krishniengar, at Hassan, and the Assistant Commissioner Mr. Bowring, at Saklespur and the Amildars of the several Taluks attended my camp and gave me much useful information and attention. The Hassan District is not yet strictly speaking divided into properly constituted Ranges. But there are two Rangers (one with Forest School certificate recently appointed on probation) and an Agricultural Inspector available as Executive Officers. Probably 4 Ranges will eventually suffice with good Foresters under the Amildars in the less important taluks.

CAMP GERSOPPA FALLS, }
29th December, 1896. }

I. CAMPBELL WALKER, COLONEL,
Conservator of Forests in Mysore.

MEMORANDUM OF INSPECTIONS, KADUR DISTRICT,
NOVEMBER 23RD TO DECEMBER 10TH, 1896.

Sandal Koti Inspection.—On the 23rd November I entered the district from Belur in the Hassan district and on the same day inspected the Sandal Koti at Chikmagalur. It is, I consider, quite unfit for the purpose, dangerous with regard both to theft and fire, and from its faulty construction ventilation and roof, detrimental to the wood. A new building is imperatively necessary along with which a District Forest Office should be constructed, the present building having been condemned both by the Deputy Commissioner and myself. I have addressed Government on the subject.

2. *Mathawar State Forest.*—On the 24th I inspected the Mathawar Sandal Reserve about five miles from Chikmagalur on the Mudgere road. The area is only 146 acres and the establishment of two permanent watchers on Rs. 5 per mensem each employed on it, is excessive and should be reduced. It was first taken up for sandal reproduction in 1886, trenched and fenced in 1888 and notified as a State Forest in November last. Sandal dibbling has been prosecuted more or less vigorously and the area is said to have been successfully protected against fire from the commencement. Results are not very encouraging, the sandal growth in lower portions being fair but on the upper very poor. Hulve (*T. paniculata*) is the only timber tree and its growth is poor. The expenditure, excluding establishment up to end of last official year, has been Rs. 1,140 and I much doubt if we shall ever recoup it. It should be reduced to the minimum compatible with efficient protection in future.

3. *Inspection of Office and Depot.*—On the 25th I saw the General Assistant Commissioner and Assistant Engineer Mr. Bhore and inspected the District Forest Office on which the following are my notes:—

Memo of registers, accounts, &c., kept in the District Forest Office, Kadur district, inspected, 25th November 1896.

Correspondence.

1	English "From" Register.	} All duly posted. There is some delay apparently in the despatch of papers after signature, which should not occur. All papers should issue not later than the day after and, as a rule, on the day of signature.
2	English "To" Register.	
3	English Tappal Book.	
4	English Memo Book.	
5	Kanarese Subordinates "From" Register.	
6	Ditto "To" Register.	
7	Ditto "From" Miscellaneous.	
8	Ditto "To" Miscellaneous.	
9	Ditto Tappal Book.	
10	Camp "From" Register.	
11	Camp "To" Register.	
12	Camp Tappal Book.	

Accounts.

1	Working Charges Bill Book	...	Posted for October and submitted on 22 nd November.
2	Cash Account, i. e., Return of Cheques issued and adjusted and balance remaining unadjusted.	...	Posted. The details on credit side had been omitted apparently through mere carelessness.
3	Cash Balance Statement	...	Posted. Outstanding advances Rs. 5,746-0-10. The amounts outstanding against Range Officers especially Lakvalli are far too high.
4	Sandal Statement	...	Posted for October.
5	Timber Statement	...	Posted. Too much detail.
6	Stock Account	...	Posted. Includes Forms 1 and 2 under "Stock" returns.
7	Plantation Progress Return	...	Discontinued.
8	Demand, Collection and Balance Statement	...	Posted for September.

Accounts—concluded.

9	Sale Return	...	...	...	Posted. Revenue Department account for October not yet closed.
10	Fuel Return	...	...	...	Posted for September. This is a return or register of fuel and charcoal removed on licenses issued by Amildars.
11	Minor Forest Produce Return	...	...	...	Posted for October—Nil.
12	Officer's Pay Bill	...	...	...	Posted for October.
13	Office Establishment Pay Bill	...	...	...	Ditto
14	Executive staff Pay Bill	...	...	...	Ditto
15	Officers' Journal	...	...	...	Posted.
16	Officers and establishment batta bills	...	...	...	Posted.
17	Acquittance roll.	...	...	...	Posted. For office and sandal koti establishments at Head-quarters those for District establishment being retained by Range Officers which is wrong.
18	Abstract Contingent Bill	...	...	...	Posted.
19	Detailed Contingent Bill	...	...	...	Posted.
20	Unanswered Reference Lists	...	...	...	Posted for October.
21	Furniture Statement	...	...	...	Posted.
22	Stationery Receipt Book	...	...	...	Posted.
23	Stationery Issue Book	...	...	...	Posted.
24	Circular File	...	...	...	Circulars of Government and Inspector General.

Quarterly Accounts.

1	Free Grants Statement	...	...	...	Posted.
2	Cattle Impounded Statement	...	...	...	Posted for September—Nil.
3	Tools and Plant Statement	...	...	...	Posted for September.
4	Sandal Enumeration Statement	...	...	...	Posted and submitted for quarter ending 30th September, but District Forest Officer has not checked a percentage of the work personally as ordered.

The office appears to be in good order without many arrears and the state of the records &c., is most creditable considering the miserable accommodation afforded which must be remedied. Outstanding advances especially to forest subordinates should be reduced and steps taken to ensure the prompt and regular disbursement of pay throughout the district as far as possible.

I also inspected the Timber Depot which contained about 2,400 cubic feet of timber and 95 small bamboos. Retail sales which produced Rs. 4,157 in 1893-94 and Rs. 4,671 in 1894-95 only amounted to Rs. 2,702 in 1895-96, the reason assigned for the decrease being extensive imports into the town by coffee planters for own use or sale which appears to call for check and control. The Depot Registers (vernacular) seem to be properly maintained.

4. *Inspections of Muthodi Forest, &c.*—From Chikmagalur I had intended proceeding to Yedahalli *via* Muthodi and Hebbe and thence to Lakvalli; but owing to the state of the road which was reported by Executive Engineer impassable for laden carts though it turned out not to be so, I changed my route and visited the Muthodi State Forest from Mallandur.

Mr. Sitaramiah, the Assistant Conservator, on special duty in connection with enumeration and valuation surveys of Muthodi and Lakvalli, unfortunately came in sick with fever the day before I left Chikmagalur and was unable to visit Muthodi with me where, however, I ascertained that his work so far had not progressed beyond the initial stage of selecting some block lines. This fine forest, the best I have seen in the province, was settled, demarcated and notified in 1890; its estimated (unsurveyed) area being 18 square miles. It is believed to be free from any rights, is said to have been successfully fire protected with some small exceptions since 1890, and has not been overfelled or the cover broken. In fact the District Forest Officer gives the total extractions from 1890 to 1896 as 964 teak logs, 413 logs of other reserved descriptions and 100 logs of unreserved descriptions, total 1,477 logs and 152 teak poles and pieces which includes removals from the adjoining District Forests.

The prevailing growth is Matti (*T. tomentosa*) but I was glad to note some fine honne (*Pterocarpus marsupium*) and healthy well grown teak of medium size in patches. It may be styled a fine pole forest with a sufficient proportion of mature trees, *i. e.*, six feet circumference and over, but comparatively few seedlings or saplings and little undergrowth.

The growth of bamboo (chiefly *B-arundinacea*) is splendid but unfortunately there is little or no demand, although Chikmagalur, the head-quarters of the district, is within 20 miles of the forest, with which it is connected by an excellent road. This feature is of considerable importance to us for, apart from the value which such produce would represent in most accessible places, it is found that it is on the proper treatment of the bamboo in deciduous and semi-deciduous forests that re-generation especially of teak by natural, as distinct from artificial methods, mainly depends. Some small experiments in the latter (artificial planting) appear to have been made in 1890 and subsequent years and about five acres regularly planted in the former year exhibit fairly good results, whilst "dibbling" and "Jungle planting" resulted in failure. The total cost incurred is said to have been within Rs. 100 and I hope with proper management we may dispense with such methods in future. The late Deputy Commissioner Mr. Sparkes considered that the forest required "thinning" and was capable of supplying a considerable quantity of valuable timber and it is in order to ascertain, approximately at least, what the growing stock is and base our fellings on some rational system that Mr. Sitaramiah has been deputed to make the enumeration referred to. It is a most important duty, the first of its kind, I believe, undertaken in Mysore and on its accuracy and the deductions and prescriptions based upon it, which will form what is technically called a "Working plan," the future welfare of the forest depends. At present I could only prescribe rigid fire protection and limited, *i. e.*, not excessive, grazing and no felling pending the enumeration and the following:—

- (1) The outer boundary, which is also the fire line, to be cleared and the whole area surveyed by the District Surveyor; (2) block and compartment lines to be cleared and surveyed. when these follow the line of a stream or nala it will suffice to clear narrow lines as straight as possible which can be chained and off-sets taken; (3) the enumeration of the growing stock by actual counting on sample areas (linear surveys preferred the lines running at right angles to each other) comprising at least ten per cent of the total area of a block or compartment; (4) preparation of a simple working plan based on No. 3 and to be checked and, if necessary, revised every 5th or 10th year prescribing the number and description of trees to be extracted annually block by block in rotation and the treatment of the forest subsequently, special attention being given to natural reproduction aided when necessary by cultural operations, such as, removal of trees of inferior descriptions and bamboos, to admit sufficient light, and loosening the soil round seed trees to facilitate the reception and germination of seed. Attention should also be paid to means of exploitation either by floating or carting, the block and compartment lines serving as far as possible as export roads and interior fire lines.

5. *Forest Station.*—A Forester's lodge and watchers' lines have recently been completed by the Public Works department at a cost of Rs. 2,417, but not yet formally taken over by the Department, some of the work not being deemed satisfactory, though the former has been occupied by the Forester. They adjoin the Police lines close to the travellers' bungalow at Muthodi as suggested by Mr. Ramaswami Iyer when District Forest Officer of the district. The lodge has too little basement and the lines none at all. It is impossible to correct this now and all that can be done to counteract the dampness to some extent is to extend the excavation and trench which runs at back of the Police lines and put down asphalt or Portland cement. But the site is radically bad and should, I think, be used only temporarily a new forest station being selected at Hipla or elsewhere on raised ground and with good water-supply, the style of building adopted being that known as 'kal serambis' in Malabar, which are wooden houses raised on piles with thatch or Mangalore tile roofs, plans and estimates for which will be supplied to the District Forest Officer. I attach great importance to the creation of such forest stations in the most healthy sites available in or near the forests and experience teaches us that money is well spent on them as they conduce materially to the health and comfort of the subordinates.

6. *Tegur Gudda Forest, &c., to form with Muthodi "A.W."*—I understand that the Tegur Gudda Forest, nine square miles, near Hebba, is at all, inferior to Muthodi and that there is another in the neighbourhood not superior, to either which it is proposed shortly to settle and notify as Forest, a matter which, I trust, the Deputy Commissioner and District Forest Officer will expedite.

* We shall then have a "Working circle" comprising 40 or 50 miles of fine forest which will justify the employment of a Range Officer and permanent working and protective staff for it alone and form a splendid field for the application of proper forest principles.

7. *Obstructions in the Bhadra River.*—I did not visit the Hebba Depot but subsequently rode to Hoshalli from Lakvalli and returned in a boat down the Bhadra to see the obstructions known as the Jakkaregudda rocks in the river which render floating difficult and at anything under half flood impossible. They extend for about three miles below Hoshalli and I noted at least a dozen which are very bad, in fact we had even to leave the light coracle and wade over them. If they could be removed the largest logs could be floated straight from the forests above referred to to Lakvalli, Shimoga district and Her Majesty's Dock beyond instead of being carted part of the way which greatly enhances the cost. The matter is referred to at page 3 of Mr. Ricketts' Inspection Notes and I understand that a considerable sum of money (about Rs. 3,500) has been frequently expended by the Public Works Department agency; but the contractor has evidently scamped the work and did not blast the right rocks or blow them out. I ask the Chief Engineer again to depute a specially qualified Officer to look over the place carefully with the District Forest Officer and raftsmen and frame a plan for the work which, if within our means, should be entrusted to them and not to themselves to carry out under professional advice and supervision, or else they will then grumble at its performance and in their own interests will make it impossible.

8. *Santaveri and Lingadahalli Inspections.*—Returning to Shimoga, I proceeded via Santaveri to Lingadahalli and Tarikere.

There is good sandal and other tree growth on both sides of the river at Santaveri and Lingadahalli and I consider portions of forest there should be reserved for the protection of the sandal and to meet local demand which is sure to increase on the extension of the railway from Birur to Tarikere and Shimoga.

9. *Tarikere and Lakvalli Depots*—I examined the depot at Tarikere which contained only old stock of logs and refuse pieces amounting to 4,606 cubic feet which I have since ordered to be auctioned to the highest bidder as they merely lumber up the yard.

The revenue at this depot exclusive of clearance has averaged Rs. 3,762 by retail and Rs. 2,514 by auction sales or Rs. 6,276 in all for the past three years and there will be greater demand on the advent of the railway, as at present we cart timber past Tarikere to Kadur. But water is by far the cheapest means of carriage for timber and we should endeavour to dispose of our annual felling at Lakvalli or Hebba and leave transport to the market and retail sales to private enterprise.

I also inspected the Lakvalli Depot which is well situated and neatly kept reflecting credit on the Mutsaddi Chitambar Bab. The stock at time of inspection consisted of 992 logs (457 teak) aggregating 18,400 cubic feet. Sales for past three years have averaged Rs. 5,248 retail and Rs. 8,127 auction or Rs. 13,375 in all; but there has been a considerable decrease in both in 1894-95 and 1895-96 as compared with 1893-94 when we realised nearly Rs. 25,000. Current year's receipts for five months amount to Rs. 4,682 and nearly Rs. 8,000 has been realised by sale of side slabs or wastage left by the sawmill contractor from the commencement.

The depot at time of inspection contained chiefly old stock which should be got rid of at anything over cost price including percentage for establishment charges. Some fine new logs had recently been brought in.

The Banger raised the question of allowances for making which he had been reprimanded by Mr. Russell. Such allowances must be made if we are to dispose of our stock and I ordered District Forest Officer to fix a limit within which they might be made on authority of Range Officer, all above it being referred for his decision. He should daily visit and thoroughly inspect such an important depot and forest at least once a quarter especially when he has an inefficient Range Officer like the present manager.

The growth of bamboo (chiefly *B-arundinacea*) is splendid but unfortunately there is little or no demand, although Chikmagalur, the head-quarters of the district, is within 20 miles of the forest, with which it is connected by an excellent road. This feature is of considerable importance to us for, apart from the value which such produce would represent in most accessible places, it is found that it is on the proper treatment of the bamboo in deciduous and semi-deciduous forests that re-generation especially of teak by natural, as distinct from artificial methods, mainly depends. Some small experiments in the latter (artificial planting) appear to have been made in 1890 and subsequent years and about five acres regularly planted in the former year exhibit fairly good results, whilst "dibbling" and "Jungle planting" resulted in failure. The total cost incurred is said to have been within Rs. 100 and I hope with proper management we may dispense with such methods in future. The late Deputy Commissioner Mr. Sparkes considered that the forest required "thinning" and was capable of supplying a considerable quantity of valuable timber and it is in order to ascertain, approximately at least, what the growing stock is and base our fellings on some rational system that Mr. Sitaramiah has been deputed to make the enumeration referred to. It is a most important duty, the first of its kind, I believe, undertaken in Mysore and on its accuracy and the deductions and prescriptions based upon it, which will form what is technically called a "Working plan," the future welfare of the forest depends. At present I could only prescribe rigid fire protection and limited, i. e., not excessive, grazing and no felling pending the enumeration and the following:—

- (1) The outer boundary, which is also the fire line, to be cleared and the whole area surveyed by the District Surveyor; (2) block and compartment lines to be cleared and surveyed, when these follow the line of a stream or nala it will suffice to clear narrow lines as straight as possible which can be chained and off-sets taken; (3) the enumeration of the growing stock by actual counting on sample areas (linear surveys preferred the lines running at right angles to each other) comprising at least ten per cent of the total area of a block or compartment; (4) preparation of a simple working plan based on No. 3 and to be checked and, if necessary, revised every 5th or 10th year prescribing the number and description of trees to be extracted annually block by block in rotation and the treatment of the forest subsequently, special attention being given to natural reproduction aided when necessary by cultural operations, such as, removal of trees of inferior descriptions and bamboos, to admit sufficient light, and loosening the soil round seed trees to facilitate the reception and germination of seed. Attention should also be paid to means of exploitation either by floating or carting, the block and compartment lines serving as far as possible as export roads and interior fire lines.

5. *Forest Station.*—A Forester's lodge and watchers' lines have recently been completed by the Public Works department at a cost of Rs. 2,417, but not yet formally taken over by the Department, some of the work not being deemed satisfactory, though the former has been occupied by the Forester. They adjoin the Police lines close to the travellers' bungalow at Muthodi as suggested by Mr. Ramaswami Iyer when District Forest Officer of the district. The lodge has too little basement and the lines none at all. It is impossible to correct this now and all that can be done to counteract the dampness to some extent is to extend the excavation and trench which runs at back of the Police lines and put down asphalt or Portland cement. But the site is radically bad and should, I think, be used only temporarily a new forest station being selected at Hipla or elsewhere on raised ground and with good water-supply, the style of building adopted being that known as 'kal serambis' in Malabar, which are wooden houses raised on piles with thatch Mangalore tile roofs, plans and estimates for which will be supplied to the District Forest Officer. I attach great importance to the creation of such forest stations in the most healthy sites available in or near the forests and experience teaches us that money is well spent on them as they conduce materially to the health and comfort of the subordinate.

6. *Tegur Gudda Forest, &c., to form with Muthodi "A Working circle."*—I understand that the Tegur Gudda Forest, nine square miles, near Hebbe, is little, at all, inferior to Muthodi and that there is another in the neighbourhood equal not superior, to either which it is proposed shortly to settle and notify as State Forest, a matter which, I trust, the Deputy Commissioner and District Forest Officer will expedite.

We shall then have a "Working circle" comprising 40 or 50 miles of forest which will justify the employment of a Range Officer and permanent working and protective staff for it alone and form a splendid field for the application of proper forest principles.

7. *Obstructions in the Bhadra River.*—I did not visit the Hebbe Depot but subsequently rode to Hoshalli from Lakvalli and returned in a boat down the Bhadra to see the obstructions known as the Jakkaregudda rocks in the river which render floating difficult and at anything under half flood impossible. The extend for about three miles below Hoshalli and I noted at least a dozen places which are very bad, in fact we had even to leave the light coracle and walk round them. If they could be removed the largest logs could be floated straight from the forests above referred to to Lakvalli, Shimoga district and Her Majesty's territory beyond instead of being carted part of the way which greatly enhances the cost. The matter is referred to at page 3 of Mr. Ricketts' Inspection Notes of 1892 and I understand that a considerable sum of money (about Rs. 3,500) was subsequently expended by the Public Works Department agency; but the contractor evidently scamped the work and did not blast the right rocks or boulders. I shall ask the Chief Engineer again to depute a specially qualified Officer to inspect the place carefully with the District Forest Officer and raftsmen and frame a final estimate for the work which, if within our means, should be entrusted to the raftsmen themselves to carry out under professional advice and supervision. They cannot then grumble at its performance and in their own interests will make the best of it.

8. *Santaveri and Lingadahalli Inspections.*—Returning to Chikmagalur proceeded via Santaveri to Lingadahalli and Tarikere.

There is good sandal and other tree growth on both sides of the road between Santaveri and Lingadahalli and I consider portions of forest there should be reserved for the protection of the sandal and to meet local demand which is sure to increase on the extension of the railway from Birur to Tarikere and Shimoga.

9. *Tarikere and Lakvalli Depots.*—I examined the Depot at Tarikere which contained only old stock of logs and refuse pieces aggregating 4,606 cubic feet which I have since ordered to be auctioned to highest bidder as they merely lumber up the yard.

The revenue at this depot exclusive of sleepers has averaged Rs. 3,762 by retail and Rs. 2,514 by auction sales or Rs. 6,276 in all for the past three years and there will be greater demand on the advent of the Railway, as at present we cart timber past Tarikere to Kadur. But water is by far the cheapest means of carriage for timber and we should endeavour to dispose of our annual felling at Lakvalli or Hebbe and leave transport to the markets and retail sales to private enterprise.

I also inspected the Lakvalli Depot which is well situated and neatly kept reflecting credit on the Mutsaddi Chitambar Rao. The stock at time of inspection consisted of 992 logs (457 teak) aggregating 18,400 cubic feet. Sales for past three years have averaged Rs. 5,243 retail and Rs. 8,127 auction or Rs. 13,370 in all; but there has been a considerable decrease in both in 1894-95 and 1895-96 as compared with 1893-94, when we realised nearly Rs. 25,000. Current year's receipts for five months amount to Rs. 1,686 and nearly Rs. 6,000 has been realised by sale of side slabs or wastage left by the sleeper contractor from the commencement.

The depot at time of inspection contained chiefly old stock which should be got rid of at anything over cost price including percentage for establishment charges. Some fine new logs had recently been brought in.

The Ranger raised the question of allowances for making which he had been reprimanded by Mr. Russell. Such allowances must be made if we are to dispose of our stock and I ordered District Forest Officer to fix a limit within which they might be made on authority of Range Officer, all above it being referred for his decision. He should really visit and thoroughly inspect such an important depot and forest at least once a quarter especially when he has an inefficient Range Officer like the present man.

10. *Lakvalli Plantations.*—I devoted two days to the inspection of the plantations on the enumeration of which Mr. Sitaramiah has recently been employed and he was luckily sufficiently recovered to be able to join me. Planting operations have appear to have been commenced by Dr. Oswald, prior to the formation of any Forest Department in Mysore, in which they resemble the Nelambur Teak Plantations which were started by a Collector of Malabar, Mr. Conolly and were many years known as the Conolly Plantations. The exact date of Dr. Oswald's planting is not on record, but local report makes it 1860 to 1862, which would make the old plantation 33 to 35 years old which is fairly borne out by counting the rings of sample tree number 13, which number 30, the average diameter being 10.50 inches and radius 5.25 inches, measurement of which shows that it took the tree only two years to attain a diameter of 2 inches, five years more to attain 4 inches, seven years more to attain 6 inches, and nine years more to attain 8 inches, whilst the present inch radius which is still incomplete (.80) has taken seven years so far, the total diameter of 10.50 inches being made up of 9.60 inches wood and .90 bark. The "Old Plantation" covers 23.8 acres and Mr. Sitaramiah's enumeration makes it contain 3,076 trees averaging 24 feet in height to first branch and from 12 to 70 inches in girth, the average number per acre being 130 and volume 1,268 cubic feet. There is no record of the exact cost from the commencement; but the Forester estimates it at Rs. 6,400 giving certain details which appear reasonable. Upwards of Rs. 8,000 has already been realised by sale of thinnings, and as the growing stock even as it stands would certainly represent Rs. 30,000, the financial out-look might be considered encouraging were the results of subsequent planting equally good, which is far from being the case.

Unfortunately Mr. Sitaramiah, owing to areas being unweeded, has so far only dealt with about 140 acres out of a total of 367 over which the plantation is supposed to extend. The remainder will have to be similarly treated and we shall then know how matters stand and can prescribe future treatment &c., which forms subject of a separate note* constituting a tentative working plan for thinnings &c. The situation of the plantation along the south bank of the Bhadra and intersected by the Tarikere-Yedahalli high road is undoubtedly favorable both for growth and exploitation by land or water and I ascribe the failures which Mr. Sitaramiah's reports and my inspections confirm to (1) planting on unsuitable soil (laterite or water logged) (2) bad nursery management, (3) careless planting out and (4) want of care and weeding subsequently, all of which must be carefully guarded against in future.

The teak planting in narrow strips of cleared forest is a failure, but sandal dibbling might prove successful on the margins of the clearings.

The new block and compartment lines must be kept open and the boards indicating name and number be carefully maintained whilst metal plates should be attached to the sample trees.

At present the plantations lying between the high road and river including the "Old Plantations" are notified as State Forests, which should be rectified, the whole strip planted being reserved, if possible. The Plantation book maintained, forming the only continuous record we have prescribed. It should be mentioned that the entries and receipts noted by Mr. Sitaramiah and the Forester are not quite tally. The latter gives total expenditure inclusive of establishment charges as Rs. 23,500 and returns round figures up to end of last official year which may be accepted as of account.

Lakvalli State Forest.—Three days were devoted to the inspection of this forest camping at Sukalhatti in the interior of the forest which bears appearance of having been an exceptionally fine one sadly deteriorated by excessive and ill regulated fellings, especially in the more accessible portions and absence of reproductive measures, in short, through bad management.

The forests of this part of the Kadur district having been under the supervision of the Divisional Forest Officer, Shimoga, till 1888, it is not known when the forest was first notified as reserved and no settlement record is forthcoming: but the original boundaries are indicated on the Topo survey map it must have been

prior to 1870 ever since which time it has been heavily indented on for the supply of the Lakvalli Depôt, the accounts showing that no less than 6,523 teak logs, 4,584 logs of other reserved classes and 1,596 unreserved have been extracted during the past ten years alone besides 40,000 teak sleepers in 1890 to 93 and nearly 20,000 teak sleepers in 1894-95. The boundaries as republished last year are still not quite accurate and will have to be revised so as to include the area north of the Yedahalli road already referred to; as they stand, they include 47½ square miles by the District Forest Surveyor's computation which the addition above alluded to will certainly raise to over 50 square miles. The division into blocks commenced by Mr. Russell is a step in the right direction as it divides the forest into more manageable areas and the lines serve as interior fire-lines and for inspection and sometimes export purposes. There are now seven blocks and the completion of two more lines which are being cut will make nine. The system of marking each tree selected for felling on the butt with Ranger's stamp entering it at same time in a list with eventually the out-turn in logs &c., is also good but the selection itself leaves much to be desired.

The trees I saw (*T. tomentosa*, and *paniculata*) were quite close together near the Katilekan road (which constitutes a right of way through the heart of the forest) and had consequently left large blanks in the cover without any signs of seedlings of good descriptions coming on, the dense growth of bamboo and rank grass being quite sufficient to present anything in the shape of natural reproduction. The top and lop, including pieces really fit for small logs, is left lying where it fell which is wasteful and enhances the danger of damage by fire. The forest must be cleared of all such fallen material, that which will not repay removal being burnt on the spot, and better arrangements, which need not be detailed here, made for the future.

Towards Devarkalgudda and doubtless elsewhere in the more remote portions of the forest there is still a fine tree growth chiefly matti, (*T. tomentosa*) and I was glad to observe some young teak, pole growth from seed.

The cultural operations in shape of jungle planting ordered by Mr. Ricketts and Mr. Russell have not been carefully carried out and may be regarded as a complete failure in the open and partially so in the shade, but I consider they should be continued on a small scale by the forest staff under clear ideas of what the requirements are and personal supervision of the Range Officer or District Forest Officer himself. But we must first get a better knowledge of the Forest and what it contains which can only be done by an intelligent resident Range Officer who knows something of his profession and takes some pride and interest in it. A complete system of inspection paths and forest roads must be opened out, meanwhile working should be confined to removal of dead and back growing trees and the top and lop above referred to in the worked portions of the forest, which require rest, supplemented by a few selected trees in the unworked portions to meet annual requirements, the greatest care being taken to break the cover as little as possible and secure regeneration either natural or by the aid of cultural operations, absolute immunity from fire and only very limited grazing in the felled portions being essential. To attempt anything in this direction with the present Ranger would be futile and I must trust to the District Forest Officer attending to matters himself till I can send another. I print his memos on the Lakvalli Plantation and forest as an appendix to these notes as they contain some useful and interesting information gleaned from the records. The site of forest station at Sukalhatti is very badly selected and I saw several better during my inspection. One or more should be chosen with due regard to situation, water-supply &c., and good accommodation on the 'Serambi' principle referred to in para 5 provided. It is impossible to do justice to a forest like this unless the establishments are located on the spot in the most healthy situations available, well housed, and afforded facilities for getting about in the shape of roads and inspection paths.

Returning to Tarikere I inspected the teak coppicing in District Forest at Jampadahalla. The coppice growth is good especially considering the little protection afforded but I deprecate such desultory efforts in unreserved areas when there is more than enough to do in the State Forests.

12. Unfortunately for me the late Deputy Commissioner, Mr. Sparkes, who took great interest in the Forest administration of his district, had just left and the

new Deputy Commissioner, Mr. Weir, was on jamabandi in Koppa, but we arranged a meeting at Lakvalli and conferred on forest matters, especially with regard to the reservation of forest on banks of streams &c., on which I explained my views which I understood met with his general approval and concurrence.

The Amildars of the different taluks attended my camp and rendered all necessary information and assistance.

The District Forest Officer Mr. Hira Singh, a very promising young officer, was with me throughout my tour. He is gaining a good knowledge of the district and, with the Deputy Commissioner's confidence and support, should do well but is heavily handicapped by the want of efficient and reliable Range officers and Foresters.

There are as yet no properly constituted ranges and only two Rangers one of whom K. Krishna Rao has already been referred to as useless. He has recently been reduced and I ordered that unless he adjusted the heavy advances outstanding against him to the District Forest Officer's satisfaction by end of current month he should be suspended. The other Ranger, Govinda Rao, has the Forest school certificate and is active and capable but inclined to be careless as instanced by the lamentable mistake he made recently with regard to the measurement of Venkatachalia's logs. With a more limited charge and definite duties and responsibilities he should however make a good executive officer and I shall do my best to send another for charge of Lakvalli and a third as soon as possible.

The Foresters are generally badly reported on and none of them seem fitted for even a small range charge but they may improve if brought more under the control and supervision of good Range Officers. Forester Sivalingoji appears to be the best of them and his name is noted for promotion. The Depôt mutsaddi at Lakvalli Chitambar Rao struck me as exceptionally intelligent and capable and I observe that both the present and former District Forest Officers give him an excellent character. He should, I think, be transferred and promoted into the Foresters' class, in which there is more scope for advancement, on the occurrence of a vacancy. Meanwhile a suitable and reliable man should be found and trained to succeed him in charge of the important Lakvalli Depôt the charge of which will however become less onerous and responsible when we have a Range Officer really resident on the spot and dispose of the bulk of our timber in or on the outskirts of the forests as I trust may be the case ere long.

I. CAMPBELL WALKER, COLONEL,

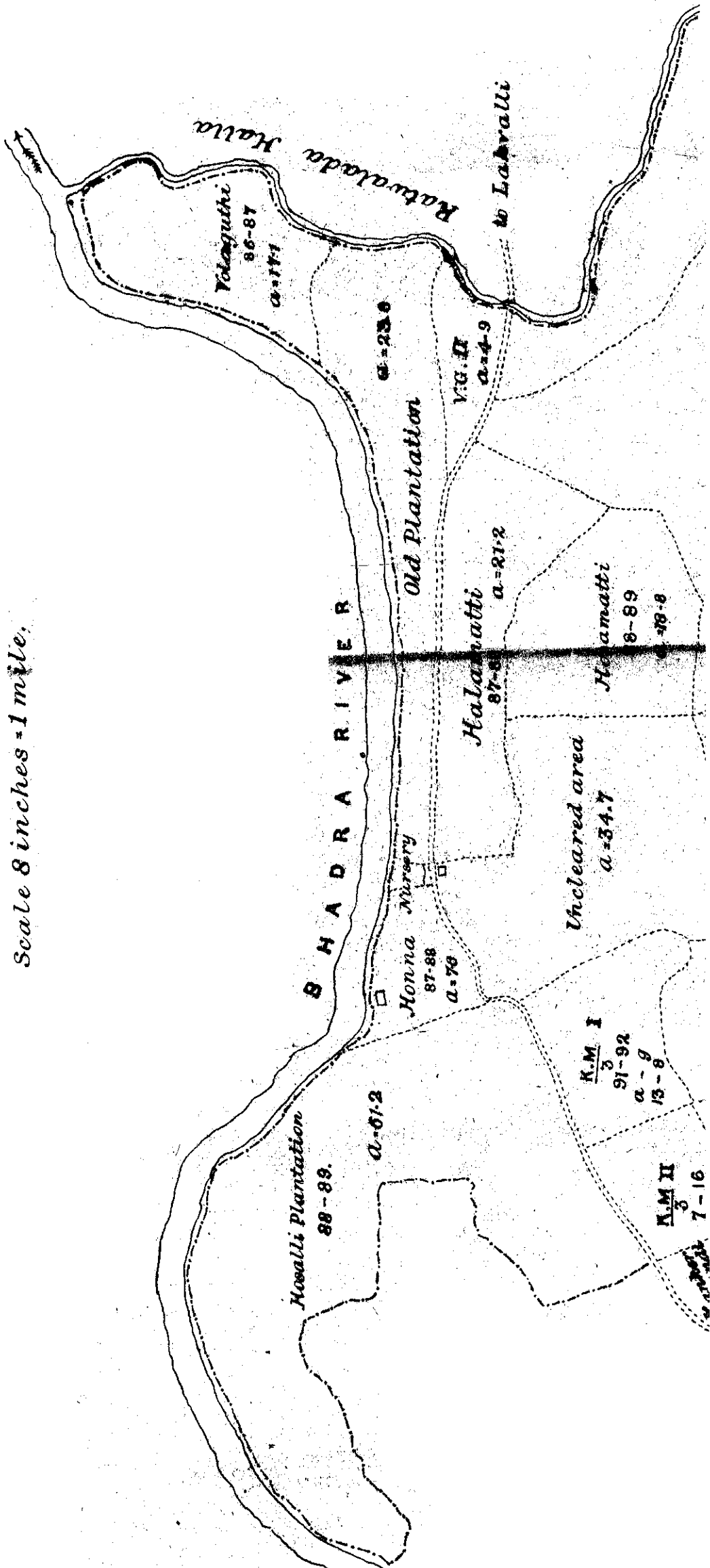
Conservator of Forests in Mysore.

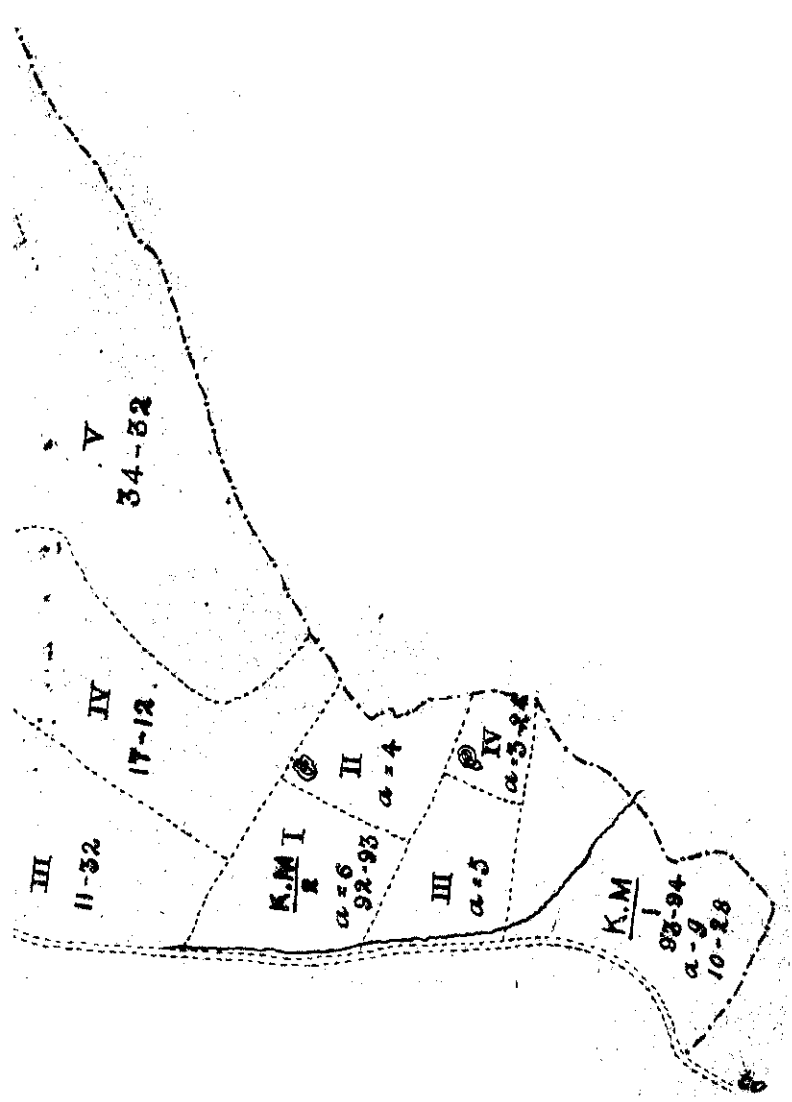
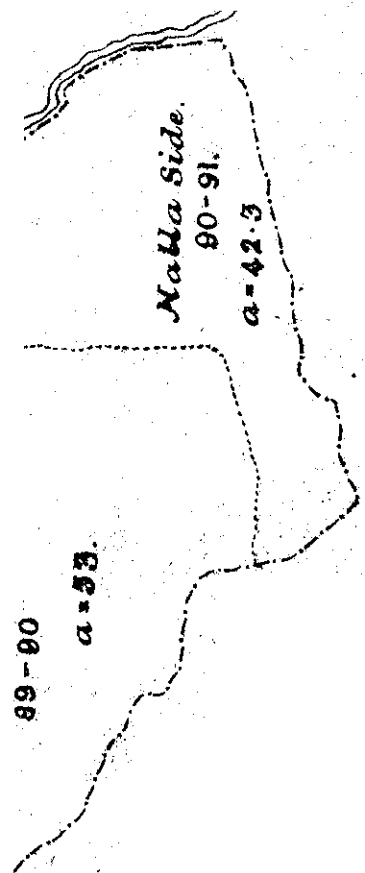
CAMP, SIRALKOPPA,

Dated 3rd January 1897.

LAKVALLI TEAK PLANTATIONS.

Scale 8 inches = 1 mile.





APPENDIX A.

[MEMO No. 45.]

Situation, Area and Reservation.—The plantations now cover an area of 367 acres and are situated on both sides of Tarikere-Yedahalli road between the 12th and 15th mile stones in Lakvalli magani of Tarikere taluk, Kadur district.

The plantation was first opened in Hunasanhalli district jungle and Kundur Amrut Mahal kaval and then extended in the kaval lands and in Hosalli district jungle. The plantations, I am informed, have not been gazetted as State Forest at any time either by themselves or have been added on to Lakvalli State Forest which adjoins them except in part. During the year * 1890 when

*Vide Mysore Gazette, Part II, page 398, dated 20th September 1890 and Notification No. 2574—Ft. 141, dated 4th September 1895.

Kundur kaval was added on to Lakvalli State Forest the northern boundary of the forest is stated to be Tarikere-Agumbi high road from 3rd furlong of the 13th mile up to the 17th mile. This notification reserves the planted areas situated only to the south of this road, i. e., Kardimatti, Hosamatti, Halematti, Jogadagundi and Hallaside, leaving the rest of the plantations, viz., old plantation, Volgutti plantation, Honne plantation and Hosalli plantation still un-reserved and excluded from the State Forest. This mistake I think should be remedied as early as possible.

Early History.—Teak planting in Lakvalli was started before the organization of the Forest Department by Dr. Oswald, Civil Surgeon of Shimoga, and the management of this plantation as well as the forests of this district was under the Shimoga Divisional Forest Officer till the year 1888, and there are no records to show the particulars of work done till that time in my office. From the plantation register maintained it is gathered that the area planted up to end of 1888 aggregated 74 acres and 24 guntas and the amount spent Rs. 5,139.

The amount realized from thinnings &c., by the end of 1888 is stated to be Rs. 4,580. Mr. Lavery, the then Assistant Conservator of Forests, has noted down that there were 33,610 teak plants growing in the area at the end of 1887-88.

Mr. Lavery writes as follows:—1887-88. "The total area planted this year is 29 acres which added to last year's work gives 51 acres of new plantation with 33,610 plants alive up to date. This added to 23 acres of old plantation makes a total of 74 acres of land under cultivation. Some of the plants put down this year have attained a height of from 12 to 15 feet and a girth of 3 to 6 inches.

Original Planting of 1888-89.—An area of 80 acres was planted during the year at a cost of Rs 2,629.

		Acres 80		Rs. 306	were spent for up-keep of previous years planted areas. The growth of teak in about half the area, i. e., in 40 acres is very poor and meagre.
Hosalli	...	61	8		
Hosamatti	...	18	32		

Total ... 80 0

Original Planting of 1889-90.—An area of 53 acres was planted up at a cost of Rs. 1,958-1-6. Rupees. 1,119-14-0 was spent for weeding &c., of old areas.

(Jogadagundi)

Planting of 1890-91.—42·3 acres were planted at a cost of Rs. 1,212 and Rs. 2,334 was spent on old areas.

Hallaside acres 42·3

Planting of 1891-92.—The area was planted up at a cost of Rs. 2,325 and Rs. 1,171 was spent on old planted areas.

Kardimatti 106 acres and 20 guntas.

Planting of 1892-93.—nil—Rupees one thousand four hundred and ninety-five was spent for the up-keep of old planted areas.

Planting of 1893-94.—Ten acres were planted at a cost of Rs. 161-5-0 and Rs. 1,402 was spent on old areas.

Kardaimatti 14 acres.

*Planting of 1894-95.—nil—*Rupees one thousand two hundred and fourteen was spent for weeding &c., of old planted areas.

*Planting of 1895-96.—nil—*The cost incurred in filling up vacancies, weeding &c., in old areas amounted to Rs. 1,031.

The growth of teak in Karadimatti is very poor.

The total cost incurred up to end of 1895-96 (on the above plantations) amounted to Rs. 23,498 and amount realised from thinnings &c., for the same period aggregates a sum of Rs 7,875.

The establishment charges have not been included under plantation expenditure except the pay of the plantation mutsaddi at Rs. 7 per mensem debited to working charges.

APPENDIX B.

[MEMO No. 46.]

Lakvalli State Forest.—The forests of this district were under the supervision of the Divisional Forest Officer, Shimoga, till the year 1888, when Mr. Sitaramaiya was appointed to be in charge of this district—Hence the settlement records of Lakvalli Forest are not forthcoming in this office and it is not known when this forest was gazetted as State Forest. As the boundaries of this forest have been marked in the topographical Survey map it is probable that the settlement was effected in the very beginning of forest conservancy in Mysore between the year 1860 and 1870, and heavily worked ever since the reservation as it has been the only feeder to Lakvalli Timber Depôt which was also established at the same time.

2. In the year 1887 Mr. Loverly, the Assistant Conservator of Forests of Shimoga, proposed the inclusion of the whole of the Kundur Amrut Mahal kaval (area 14 square miles) into the State Forest (area 35 square miles). The proposal was approved of by Mr. Ricketts, the Inspector General of Forests, and Colonel Hay, the Military Secretary; of course subject to the right of free grazing of Government Amrut Mahal cattle in the kaval portions included in the reserve.

In March 1888, Mr. Sitaramaiya proposed the exclusion of part of the kaval which was approved of by Mr. Ricketts, Inspector General of Forests. Mr. Sitaramaiya cut the demarcation line and submitted boundary statement for publication in July 1890, and the same was published in September 1890. The boundaries were again republished by Government in Notification No. 2574, dated 4th September 1895. Thus out of 14 square miles of kaval available for reservation only about 10 square miles were reserved and 4 square miles excluded from the reserve.

Thus the total area of the State Forest including portion of Kundur kaval amounted to $35 + 10 = 45$ square miles. The District Forest Surveyor, after surveying the forest, has computed the area to be $47\frac{3}{4}$ square miles.

3. From letter No. 493-20, dated 24th May 1889, of Inspector General of Forests, to the Deputy Commissioner, Kadur district, it is understood that no grazing whatever has to be allowed in the reserved portions of the Kundur kaval but only in the unreserved portion of the kaval (*i. e.* about 4 square miles a very narrow strip of about 12 miles in length) on payment at annas 2 per head of cattle per season (1st June to 31st January) and two kavalgars at Rs. 3 per mensem have been employed for supervision over cattle graziers. The total collection of fees from the unreserved portions of the kaval minus the pay of the two kavalgars is credited to the Amurt Mahal Department at the end of every official year.

Under what authority the Lakvalli Ranger has been collecting grazing fees at annas 4 per head of cattle and allowing grazing even in the reserved portion of the kaval has to be ascertained as the present Head Clerk in my office cannot give me any information in the matter. I shall ascertain this from the Ranger and submit my report.

4. The boundaries of the forest as published do not seem to be correct and take in only part of the Lakvalli teak plantations, *i. e.*, portions to the south of Lakvalli-Yedahalli road. Revised boundary statement will be submitted after

careful preparation and necessary check in the field, if so ordered, so that the whole planted area near Lakvalli may be included in the reserve. I see that Lakvalli teak plantations have not been notified as reserved areas though they are opened in Kundur kaval lands and in district jungles of Hunasanballi and Hosahalli.

The Katlekan, Lakvalli and Katlekan save cart-tracks, the old demarcation line between the State Forest and Kundur kaval portion added to it during 1890, the Gurupuretrāgundi and Kalhalli block lines lately cut by the Ranger now divide the whole forest into seven blocks. Two more block lines are now being cut in Koramaragudda portion of the forest which, if completed, will divide the forest into nine blocks. These block lines will also serve the purpose of interior fire lines if kept clear during the dry season.

As already stated the Lakvalli Forest was the only feeder to Lakvalli Depot and has been much worked especially in all the accessible localities of the forest ever since the establishment of the dépôt. From the records in this office it is gathered that the following timber has been removed from this forest from 1886 to 96.

Kind.						Logs,
Teak	...	...	...	...	...	6,523 logs.
Reserved timber	...	...	...	...	...	4,534 „
Unreserved	...	..	...	...	...	1,596 „

Besides the above timber, teakwood for the preparation of 40,000 railway sleepers was collected from this forest during the years 1890-93 and Lakvalli State Forest contributed more than one half of the quantity of teakwood required for the supply of 37,000 railway sleepers during the years 1894-95.

B. HEERA SINGH,

District Forest Officer, Kadur District.

Dated 12th December 1896.

APPENDIX C.
Statement showing the detailed description of some of the blocks and compartments of the Lakkavalli Teak Plantations in the Kador district.

Serial No.	Block	Year	Compartment	Area		Approximate No. of trees	Average		Average per acre		Remarks as to condition, &c.	Prescription proposed by Mr. Y. Sita- ramaiya	Conservator's Orders
				Acres	Guntas		Height	Girth	No.	Volume			
1	Old plantation	1860-61-62	I	23	32	3,076	Feet 24	12 inches to 70 inches	130	1,268	Trees on the whole are doing well though some of them are overgrown with loranthus. The western half of the plantation contains a large percentage of big trees.	The plantation has been thinned more than once and no further thinning seems therefore necessary for some years to come, although the suppressed trees met with here and there to a limited extent in the eastern extremity require early removal.	The growth in this plantation is good on the whole, the average volume per tree being 10 cubic feet whilst nearly 200 trees average 20 & 22 trees upwards of 30 cubic feet each. But the stock is very unevenly distributed and requires careful observation and treatment to get it into anything like an ideal condition. Everything in the shape of creepers or climbers should of course be removed also suppressed trees and where the trees are at all crowded one or two here and there should be removed with the greatest care and under the District Forest Officer's personal supervision. Before doing so he should go carefully through the block several times with the Range Officer and select the trees, if any, which may be removed with advantage and without interfering with the cover the sole object to be kept steadily in view being the improvement of the final crop.
													The plantation being from 30 to 35 years old may be regarded

as still in its infancy. I shall ascertain the rotation and number of trees which should be standing per acre at different stages of growth in an ideal state as tentatively fixed some years ago for Nelambur, and I believe recently revised and this will be a guide to District Forest Officer though no rigid conditions can be prescribed.

Whilst creepers and thorny undergrowth must be suppressed there is no necessity for weeding or the removal of shrubs which will protect the soil and root system from the fierce rays of the sun especially in the hot season when the teak is leafless.

Rank weeds and thorny undergrowth in this block should be kept down and suppressed trees removed periodically and very gradually. Drainage should be attended to but the low lying water logged portions especially in compartment II should not be replanted. The natural growth of Bete and Hoonal (*Dalbergia latifolia* and *T. paniculata*) may be encouraged as they will act as nurses to the Teak which of course they (especially the latter) must not be allowed to suppress.

The stocking of compartment II is very poor, but as it was planted ten years ago it is impossible to re-stock it now.

2 Valagutty	1886-87	I	17	4	10,238	21.06'	16.56"	599	...	Soil alluvial deposit and has free drainage. Prospects very good and encouraging.	Excepting the removal of suppressed trees no other treatment is called for at present. It seems rather early to say anything of thinning now.		
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APPENDIX C--continued.

Serial No.	Block	Year	Compartment	Area		Approximate No. of trees	Average		Average per acre		Remarks as to condition &c.	Prescription proposed by Mr. Y. Sitaramaia	Conservator's Orders
				Acres	Guntas		Height	Girth	No.	Volume			
3	Valagutti.	1886-87	II	4	36	1,769	19-37'	15-17"	361	...	Western half water logged, eastern half quite the reverse. Prospects good in the eastern half, but bad in the western half.	Excepting the removal of suppressed trees no other treatment is called for at present. It seems rather early to say any thing of thinning now.	
3	Halematti.	1887-88	I	21	8	12,157	14-58'	11-44"	573	...	Rocky in the western and southern extremities, elsewhere soil is deep over 2' and has free drainage. Prospects encouraging	Except the removal of suppressed trees and cutting of bamboo shoots in blanks here and there no other treatment seems necessary for the present. As to thinning it will depend upon the future growth.	This block contains a large proportion of failures and re-plants which are little better and is really only half stocked. I would not, however, attempt to re-stock it and merely carry out the special duty Officer's suggestions.
4	Karadimatti.	1893-94	I	10	28	8,292	7½'	2"	775	...	Very good, considering the age, soil deep over 2', has a very good drainage throughout. Prospects encouraging.	A large No. of existing vacancies is met with under the shade of big unreserved trees left uncut on the spot they may be re-placed and the trees girdled next year.	775 trees per acre is not a bad stock at 3 to 4 years old, but unfortunately many of them are mere dwarfs and re-plants and will I fear never develop into trees. I would however only attempt re-stocking when circumstances are exceptionally favorable using exceptionally well rooted, vigorous seedlings and planting them in large pits very carefully at the commencement of the monsoon. The unreserved trees referred to should all be carefully removed

without damage to the young teak growth.

Yes.

Two thorough weed-
ing in 1897-98 and
only one thereafter
till 1903-1904.

Pruning once a year
till 1903-4

No. Only remove root suckers and epicormic or adventitious shoots and forks. *Vide* remarks on this subject on special duty Officer's remarks on block No. 2 which were first submitted. All pruning to be done under District Forest officer's or Range officer's personal supervision and on no account by Foresters, watchers &c. promiscuously.

Yes. *Vide* remarks under head re- placing of vacancies in this block in special duty Officer's report. When he writes of 114% of vacancies he really means about 50% i. e. 114 out of 214 originally planted and 43% or a little more than half of the remaining stock are suppressed and probably re-planting is im- practicable except in isolated cases and under special arrangements as explained above. *Vide* remarks already made re pruning and on the Special Duty Officer's first report on this block.

Drainage of the western extremity should be improved. Though the percentage of vacan- cies amount to 114 p. c. the further filling up of vacancies in this compartment is out of place. Weed- ing twice once before the summer rains and another in the cold wa- ther, would answer well the above purpose. Two thorough weedings are required in 1897-98 and only clearing of bamboo shoots every year there after till 1900-1901; plants in the compartment re- quire pruning once a year till 1900-1901.

Surface soil binding sub-
soil loss and fire and
is over 2' in depth.

Prospects good if pro-
perly looked after.

...

461

2"

7'

2,767

...

6

I

1892-93

Karadi-
matti 2.

APPENDIX C—continued.

Serial No.	Block	Year	Compartment	Area		Approximate No. of trees	Average		Average per acre		Remarks as to condition &c.	Prescription proposed by Mr. Y. Sitaramaia	Conservator's Orders
				Acres	Guntas		Height	Girth	No.	Volume			
	Karadi-matti 2.	1892-93	II	4	...	1,740	6'	2"	435	...	Soil rocky in a small area at the top, elsewhere same as above. Prospects good.	Vacancies amount to 124 p. c.; but as they occur in compact areas re-planting vacancies should be done in next planting season; transplants should be vigorous and healthy.	124 failures out of 224 planted is meant and of those remaining 44 in every 100 are under 3 feet high and for the most part mere dwarfs. Planting here appears to have been very carelessly done and little or no attention paid to it subsequently, the result being almost entire failure. There is no use re-planting the upper portion, but the latter may be restocked with well rooted seedlings most carefully planted out early next monsoon if nurseries which should be adjacent can be properly stocked ere then.
												Weeding twice a year till 1898-99 clearing of bamboo shoots annually thereafter till 1901-1902.	This refers to the area already stocked, i. e., not that requiring re-planting which may require even more frequent weeding till the plants have thoroughly established themselves and grown above the undergrowth.
												Pruning will have to be done once a year till 1903.	Cleaning and clearing of creepers and removal of root suckers &c., should suffice.

Karadi- matti 2...	1892-93	III	...	2,655	9'	3½"	534	...	Same as Karadimatti block 2, compartment I. Prospects good.	Drainage of the western extremity requires improvement. Vacancies amount to 50 per cent but as they occur scattered over the whole area they need not be re-placed. Bamboo growth should be kept down and the teak plants pruned once a year till 1899- 1900.	100 living to 50 failure is meant apparently and for the reasons given by Special Duty Officer it would be little use trying to re- place the casualties which should have been done promptly. Yes. Cleaned.
Do	1892-93	IV	3	934	8'9"	3"	311	...	Same as Karadimatti block 2, compartment II.	Vacancies amount to 40 per cent but as they occur in compact areas they admit of being replaced. Bamboo growth should be kept down and the teak plants pruned once a year till 1899-1900.	This is a very poorly stocked area averaging only 311 trees to the acre and of those 34% are under 3 feet high and the others mere whips.
Karadi- matti 3.	1891-92	I	13	7,672	7'	2"	581	...	Growth better, soil deep over 2' and has free drainage throughout. Prospects good.	Re-placing of vacancies with strong healthy and vigorous trans- plants once in 1897- 98. Two thorough weeding till 1898-99 and only cutting bamboo shoots there- after till 1903-4. In- stead of two thorough weedings a year hoe- ing once a year round each plant in such a way as to remove the stumps of tall grass seems preferable. Pruning should be done as per Conservator's order.	If situation and soil are at all suitable it would be better virtu- ally to re-plant it carefully. May be tried when conditions are at all favorable but I am not sanguine of success unless the ground operated on is virtually re- cleared and pitted beforehand and the seedlings which should be reared in adjacent nurseries are very healthy and vigorous and put out early in the monsoon on the duration of which much will de- pend. There must be thorough weeding till the plants grow above the undergrowth and form cover.

APPENDIX C—continued.

Serial No.	Block	Year	Compartment	Area		Approximate No. of trees		Average		Average per acre		Remarks as to condition &c.	Prescription proposed by Mr. Y. Sitaraya	Conservator's Orders
				Acres	Guntas			Height	Girth	No.	Volume			
Karadi-matti 3.	1891-92	II		7	16	4,019	...	...	...	543	...	Growth good, soil deep over 2' and has free drainage throughout. Prospects good.	Re-placing of vacancies with strong healthy and vigorous transplants once in 1897-98. Two thorough weeding till 1898-99 and only cutting bamboo shoots thereafter till 1903-4. Instead of two thorough weeding a year hoeing once a year round each plant in such a way as to remove the stumps of tall grass seems preferable. Pruning should be done as per Conservator's orders.	As almost the whole of the plants in this compartment are said to be under 3' high I do not understand how the Special Duty Officer classes the growth as good. On the contrary it is very poor and the young plants don't seem to "come away" at all. We can only see what thorough weeding and cleaning will do but I am not at all sanguine about the results.
				11	32	5,812	8'-6"	3"	...	493	...	Growth best, soil deep over 2' and has free drainage except northern extremity.	Two thorough weeding in 1897-98 and only cutting of bamboo shoots afterwards till 1901-2. The western portion of this compartment requires draining. One drain 2' x 2' in section in the middle first at right angles to the inclination of the slope to a length of about a	I would make it at least 3' x 3' i. e., 3' wide at tops and 3' deep sloping down to a width of 1' at bottom.

Karadi- matti 3 ...	1891-92	IV	17	12	3,782	8'-3½" S. S. 21'	23" S. S. 9"	219	...	Growth bad, soil deep over 2' and has free drainage.	furlong and then in the direction of the incli- nation till it reaches the side drains of the Tarikere—Yedahalli road seems enough. Pruning as per Con- servator's orders.
Karadi- matti 3.	1891-92	V	34	32	...	...	...	...	...	This compartment is in a very neglected con- dition. It does not seem to have been tou- ched at all after the original planting, con- sequently it has been overgrown with rank and thorny weeds so much so that it has become impenetrable.	Re-placing of vacancies twice—once in 1897— 98 and another in 1898-99. Two tho- rough weedings till 1900-land only cut- ting of bamboo shoots till 1905-6. Pruning as per Conserv- ator's orders. Re-plac- ing vacancies has al- ready been commenced in a portion of this compartment and should be extended. Re-placing vacancies twice, once in 1897-98 and another in 1898- 99. Two thorough weeding till 1900-1 and only cutting of bamboo shoots till 1905-6. Pruning as per Conserv- ator's orders. Before extending the plant- ing operations here it would be better to re-stock this compart- ment. After the ori-

The letters S. S. refer to stool shoots with which the compartment abounds. The growth and stocking are wretched and there is every indication of bad planting and utter want of care subsequently. There is no use attempting to re-place failures annually. A determined attempt may be made to do so once and if that fails it must be abandoned or left to nature, the thorny undergrowth only being removed periodically.

If re-planting is attended with any measure of success the weedings suggested by the Special Duty Officer should be carried out subsequently.

This was commenced far too late with wretched plants and of course resulted in failure—a mere waste of money in fact. Such desultory and badly executed measures are of no avail.

It is impossible to say anything with regard to this compartment till it is cleared. It is a large compartment at present covered with impenetrable undergrowth and the probability is that all or

APPENDIX C—concluded.

Serial No.	Block	Year	Compartment	Area		Approximate No. of trees	Average		Average per acre		Remarks as to condition &c.	Prescription proposed by Mr. Y. Sitaramaiya	Conservator's Orders
				Acres	Guntas		Height	Girth	No.	Volume			
												ginal planting no attempt seems to have been made to weed or re-stock the area. If this compartment is not brought to working order the money already spent over it viz., about Rs. 700/- will be almost a dead loss. the greater portion of the plants have perished and that those which remain (if any) are ruined. What successive District Forest Officers since 1891-92 can have been doing to admit of this state of things I cannot imagine. The whole area must be thoroughly cleared and if <i>advisable</i> replanted, but I doubt if it will be found advisable as the ground is high and soil probably laterite or gravel.	

I. CAMPBELL WALKER,
Conservator of Forests
in Mysore.

MEMORANDUM OF INSPECTIONS, SHIMOGA DISTRICT.

(December 10th 1896 to January 9th 1897.)

I devoted a month to the inspection of this important Forest District which I entered at Benkipur, the District Forest Officer and Range Officer meeting me on the frontier, and left at Malebennur after traversing the whole length from south to north at Gersoppa or Jog *via* Kumsi, Sagar and Talguppe crossing *via* Siddapur in the North Canara District to Sorab and thence south to Saulanga *via* Shikarpur and east to Malebennur *via* Honnali.

2. The State Forests inspected were Puradhal, Kumsi, Kardibetta, Chendrakal, Malendur, Gangavansara and Kunchinhalli. The *Puradhal State Forest* has an area of 10 square miles, demarcated and notified in 1893. It includes the plantation or reproduction block of the same name situated on both sides of the Gadikoppa-Shanker Forest road which requires an annual maintenance grant. Thirty-two acres of the waste lands of the deserted village of Puradhal have been planted with teak, honne and gall-nut, of which 4,500, 500 and 9,000 respectively, are said to be surviving, but their growth is very poor. Just outside the State Forest is another plantation called Anapingatte with a ground area of 218 acres notified in 1886. The planted area is estimated at 82 acres and out of 70,000 teak, honne and gall-nuts planted out, about 39,000 are said to be surviving, but I did not see a single well-grown robust tree and the planting of teak and honne must be regarded as a complete failure and discontinued entirely, efforts being restricted to sandal dibbling and planting out of gall-nuts well established in nurseries.

Hitherto, the gall-nuts have been planted out too small and nursery management has evidently been defective. It is said that an experiment in transplanting in the nurseries was tried last year, the seedlings from seed sown in February having been pricked out in rows in April and finally planted out in July; but as those which survive were not more than two to three inches high in December, they must either have been put out too small or died back.

In addition to the establishment of Forester and watchers employed for the State Forest, there is a special establishment of a Mestri Rs. 8, kamati Rs. 6 and cooly Rs. 4 for the two so called plantations. This is quite unnecessary and must be discontinued. The natural forest adjoins that of Shanker and is capable of yielding some timber and revenue under a system of "improvement fellings" which in the shape of coppicing teak are said to have extended over about 80 acres. The forest is fire-protected and I inspected a portion of the fireline adjoining the Shimoga-Kumsi road which was being cleared and burnt off in a very desultory manner. I explained how it ought to be done and found the Forester acquainted with the proper system, though he did not follow it.

The *Kumsi State Forest* notified in 1890 has an estimated area of 20 square miles, but coppice or improvement fellings are said to have extended over only 80 acres. It includes an artificially planted area (teak) of about 30 acres on the bank of the Kumadvati river. The trees planted out under Mr. Rama Rao's supervision some three years ago are well established and promise fairly well, but subsequent plantings are not promising, a large proportion having apparently been put out too young, died off and been replaced by seedlings of the next year, which is rarely successful on any scale. The experiment seems worth prosecuting under proper management the essentials of which I explained to the District Forest Officer and his subordinates on the spot, also the proper method of clearing and burning off fire lines including cross strips known as "ladders" which facilitate the control of the fire.

Masrur State Forest to the south of the road with an area of 10 square miles was not inspected, but Mr. Monteiro, the Sub-Division Officer, met us in Karadibetta (11 square miles) alongside which the high road passes. It was notified in 1891.

and contains besides matti and jambé (*Xylia dolabriformis*) which are the prevailing trees in those forests, (teak only appearing here and there) a fair amount of sandal.

The *Malendur State Forest* (11 square miles) notified in 1891 also adjoins the road and may be styled a pole forest of matti, jambé and nandi (*Lagerstræmia microcarpa*) largely interspersed with bamboos. There would appear to be at least one village and a considerable area of paddy flats included within the notified area which should be demarcated out as enclosures. The settlement register which I examined merely records the opinions of the Assistant and Deputy Commissioner regarding inclusion or exclusion of lands without any definite final orders and no allusion to rights of way, water, &c., which is not satisfactory and should be remedied.

Chendrakal State Forest between Shiralkoppa and Shikarpur has an area of 11 square miles notified in 1890.

In addition to matti and nandi it contains a good deal of sandal, the healthiest and best grown I have seen in the district, which should be rigidly protected. Unfortunately fire is said to have been of frequent occurrence which is not to be wondered at, considering that the forest is traversed by numerous unfire-traced paths and free ingress allowed to cut firewood on license at annas 2 per cart-load. Only absolutely necessary rights of way should be allowed and they should all be fire-traced, being with others closed to traffic, utilized as block and inspection paths and interior fire-lines, whilst cutting of firewood or anything else if necessary at all should be localized and regulated.

The seigniorage of annas 2 per cart on the class of wood taken which is said to be indispensable in the malnad is ridiculously low and should be raised to at least annas 8 per cart or better still the firewood be felled, stacked and offered for sale by public auction in convenient lots.

The District Forests in the neighbourhood appear fairly well stocked and should be first indented on something in the shape of systematic felling (on license) being introduced. At present the special rules for the malnad permit of the removal of firewood free from District Forests, but I think this should be modified and the privilege confined to small dead wood as contemplated by Mr. Ricketts and not made applicable to fine trees and logs for which the inhabitants appear well able to pay fair rates.

The *Gangavansara* (26 square miles) and *Kunchinhalli* (6 square miles) State Forests differ widely from those above alluded to being situated further to the east with a much smaller rainfall.

The teak which occurs is stunted and other descriptions such as matti, honne, nandi, bite (*Dalbergia latifolia*), channangi (*Lagerstræmia parviflora*), dindiga (*Anogeissus latifolia*), &c., rarely grow to a size sufficient to yield logs. The teak is coppiced and the best pieces supplied to depôts, the inferior stuff being sold by auction on the spot. The coppice growth inspected was decidedly good, two year old shoots being 10 to 15 feet high and those of one year 6 to 8 feet and healthy. If operations are extended and systematically carried on with thorough protection after felling, a most useful forest of teak poles may be created. But though the forests are demarcated and protected by outer fire-lines, there are numerous paths and cart-tracks forming thoroughfares through the forests which are not defined or fire-traced and isolation is therefore incomplete. Those which are necessary should be defined, notified as rights of way and fire-traced, and all others rigidly closed, trespassers being prosecuted under Section 11 (5) of the Forest Rules which are unfortunately a little vague with regard to simple trespass.

Apart from the stunted teak and other poles, the chief value of these forests is for firewood to meet local demand and that of the adjacent Honnali Gold Field. The yield so far has been poor not exceeding $\frac{1}{3}$ rd of a ton per acre, but far too many trees including old gnarled teak and other descriptions, have been left standing merely because they were "reserved trees" though really only fit for firewood. Firewood fellings in the Gangavansara Forest have hitherto been limited to within 1,000 acres yielding a little over 300 tons. Those in Kunchinhalli have been more extensive, the outturn in four years having been close on 4,000 tons and seigniorage annas 8 per ton nearly Rs. 2,000, but unfortunately they have not been located and restricted to well defined and measured areas or "coupes" which must be done in future. The yield per acre cannot therefore be ascertained nor the reproduction

carefully noted, but on the whole it is wonderfully good notwithstanding imperfect protection. A sample acre recently cut over yielded only 3 tons but a good deal more, including old trees referred to above, might have been cut and the outturn raised to 5 tons. We cannot put the rotation necessary at less than 15 and it would more probably be 20 years, so cannot reckon on a yield of more than $\frac{1}{3}$ rd or $\frac{1}{4}$ th of a ton per acre per annum.

The species observed in a stack of 80 cubic feet were as follows:—

Dindiga (*Anogeissus latifolia*), tupra (*Diospyros tupru* or *melanoxylen*), mukarti (*Elaeodendron roxburghii*), pachari (*Dalbergia paniculata*), tandrasi (*Gymnosporia montana* now *celastrus senegalensis*), hulve or hunal (*Terminalia paniculata*) and mangare (*Randia dumetorum*).

• Of these the most frequent is certainly the Dindiga and amongst others which reproduce well from stool the hulve (*terminalia paniculata*), chenninge or chellunga (*lagerstræmia parviflora*), chilla (*strychnos potatorum*), kodasiga (*holarrhena antidysenterica*), and in the Kunchinalli Forest the tuggalu (*albizia amara*) and kagli (*acacia catechu*) may be mentioned.

It is very difficult to offer an opinion with regard to the "possibility" and still more to prescribe the systems under which the deciduous forests on what may be styled the Shimoga plateau should be worked, for there is absolutely no data for guidance. The settlements made are all more or less imperfect and in some cases dangerously indefinite merely recording the views or suggestions of the Revenue Officers who held the enquiry with the opinion of the Deputy Commissioner for the time being. No attempt has been made to define rights of way and the forests are honey-combed with roads and paths, the consequence being that there is little or no real protection except from alienation and unauthorized felling on any scale. Fires and cattle-trespass are not very frequent for the same reason, *viz.*, the absence of much grass, what there is being as a rule of poor quality.

There has certainly been no excessive reservation as complained of at a recent Dasara Assembly, the whole district, except portions in the south-east corner, being forest clad and the inhabitants especially favored by nature and the liberal privileges vouchsafed to them under the Subsidiary Rules. I would recommend that all the settlement records be revised and amended, rights, if any, admitted being clearly separated from privileges conditionally conceded. Something in the shape of an enumeration or stock taking should follow so that the forests may be worked on a rational system and not in excess of the annual increment. "Selection fellings" will probably suit best in the western and "coppice under standards" in the eastern portions of the district, the annual "coupes" being in each case clearly defined and rigidly protected subsequently.

Sandal which occurs rarely in the heavily timbered forests of the west or even in the more open reserved "jungles" of the east, but prefers the more lightly wooded unreserved areas in the neighbourhood of villages and cultivation, must be separately considered and treated with the greatest care.

I have not referred to the vast evergreen forests on the ghats which have so far barely been trenched upon or even explored, as I did not visit them except in connection with kumri cultivation which will be separately referred to. They form a reserve of timber and minor forest produce which should be carefully husbanded and gradually developed as communications are opened out, the chief considerations being to maintain the cover which they afford intact in connection with the regulation of the water-supply, whilst utilizing their produce to meet the demand and supplement the forest revenue of the State. This can only be secured by gaining a thorough knowledge of what they contain and then applying sound principles and carefully considered and matured systems to their management.

3. *Plantations*.—In addition to the planting or cultural operations referred to

Koralkoppa Sandal Reserve
Alkola ditto
X Shimoga Revenue Plantation
Sagar ditto
Hale Sorab Sandal Reserve
Bhadrapur Revenue Plantation
Kalenhalli Forest Plantation

under State Forests, I inspected the Sakrebail teak plantation and other minor plantations, sandal reserves or reproduction blocks marginally noted. The Sakrebail teak plantation appears to have been commenced in 1863 by Dr. Oswald, who also started the planting at Lakvalli in the Kadur district which was then part of Shimoga or the Nagar division.

The planting extends along the left bank of the Tunga river between the 9th and 11th miles of the Shimoga-Tirthahalli road.

I attach a memorandum regarding it drawn by the District Forest Officer, but regret to notice on reading it carefully that it is not clear either with regard to areas stocked, number of trees remaining or cost up to date. The annual return for past official year gives the area stocked as 303½ acres and cost Rs. 13,187, but there is clearly some inaccuracy as regards both and the plantation must form subject of re-survey and enumeration such as in progress at Lakvalli. Meanwhile I made the following notes on inspection. "The plantations extend in a narrow strip, "not always contiguous, along the left bank of the river Tunga, commencing with "a small piece, now abandoned and left out of reservation, said to have been planted by Dr. Oswald in 1863. The portion known as the old plantation is reported "to have been planted in 1870, but there is an older bit of six acres close to the "river at further end supposed to be of 1867. The "old plantation" comprises "23 acres of somewhat irregular but fairly good growth superior to that of 1867, "trees of 70 feet in height and three to four feet in girth being not uncommon. "The undergrowth which is chiefly *kydia calycina*, *cæsalpinia sepiaria* and bamboo has been allowed to grow which is good in a way as it covers the ground but "requires to be kept within bounds especially in the younger plantations the best of "which is a portion of the 1887 planting slightly raised which has prevented its "being water-logged like the remainder. The trees in the portion referred to "which are from 20 to 30 feet high have fine straight clean boles and good crowns "making the cover complete. One sample tree measured was 28" in girth at breast "high, but this is of course exceptional, the average being 18" to 24". The bulk of "the planting of 1886 to 1889 has been a good deal damaged by floods and standing water this year when the water stood three feet deep on the high road. A "small piece of two to three acres planted in 1893-94 has been looked after by the "District Forest Officer personally and shows signs of care, but its soil and general "conditions are unfavorable. The sandal planted in it is however doing well also "some honne and bite. The plantations on the whole are better than I expected, "but require careful treatment block by block in accordance with the circumstances "of each which can only be ascertained by thorough detailed inspection in the "absence of which it does not do to prescribe any empirical rules for treatment. "It may however be safely said that more weeding and less pruning are required "and that the District Forest Officer's standard of excellence is too low which is "doubtless due to want of opportunities of comparison with really good plantations. It should be understood that even under favorable circumstances as regards soil and rainfall if planting is properly done with well-rooted seedlings put "out early in the monsoon the 5th or at most the 7th year should see the trees at "least 12 to 15 feet high, growth uniform, and cover complete; but to secure this "the greatest care is necessary to replace failures by strong well-rooted seedlings "either the same or very early in the ensuing season for which purpose a reserve of "transplants should be maintained in the nursery. Further whatever may be the "case later on the plantations must be thoroughly weeded at least once and probably twice a year for three to five years according to growth or the young trees "will be choked. On the other hand pruning during the first period of growth "at any rate does more harm than good, all that is required being the removal of "root suckers, adventitious shoots and climbers which should be done by the "Maistri or Forester himself under supervision of the Range Officer or District "Forest Officer, no one else being permitted to apply a knife to the trees. "Before opening out any new ground the existing area must be carefully gone "over and handled, blanks being filled up where at all likely to succeed and "the creepers and thorny undergrowth carefully removed.

"The strip planting initiated by late Inspector General as an experiment is "a failure as regards teak and should be abandoned, sandal dibbling being continued "under partial shade. The natural reproduction in the reproduction block is very "interesting and results as regards honne, bite and matti decidedly encouraging, "but not so much so as regards teak which evidently requires special treatment and "probably more light and air. The situation of these plantations (like Lakvalli) is "very favorable as they are provided with means of exploitation both by road and "river and can be readily worked and protected along with the adjoining State "Forest with which they are or should be incorporated. In considering any "replanting or extension very low areas should however be discarded as they are

“apt to be flooded and water-logged and even more elevated areas should be thoroughly drained before planting. The Inam Forest included within the demarcation line of the Sakrebail State Forest should be excluded and a proper settlement record obtained or prepared followed by a simple working plan for both the natural forest and plantations.”

The Koralkoppa sandal reserve originally comprised 213 acres notified in 1892, but recently about 90 acres have been abandoned under the orders of the late Deputy Commissioner on the complaints of the adjacent villagers. This should not have been done without the sanction of Government, but as it is, I think, the remaining area about 120 acres had better be given up as too small and isolated for our purposes. It is considered to be stocked with sandal dibbled and sown with cassia florida after ploughing, the number of plants being estimated at 25,000 from 1 to 6 feet high. The total cost incurred up to end of 1895-96, including a trench and aloe fence round $\frac{3}{4}$ of the boundary, has been Rs. 886 and there is a watcher on Rs. 6 per mensem. The growth of both natural and artificially sown trees is unsatisfactory and I doubt if the trees will ever mature or yield heartwood. I cannot understand why these small areas outside the limits of State Forests were ever taken up and unless the results promise to be very good would certainly stop all further expenditure on them and place them in charge of the village officers.

If the forest road is required for communication with the State Forest beyond, it should be completed and an annual maintenance provided. Much the same remarks apply to the Alkola sandal reserve situated about 2 miles from Shimoga on the Sagar road. Its area is only 116 $\frac{1}{2}$ acres surrounded by a trench and aloe hedge 1 $\frac{3}{4}$ miles long.

Sandal sowing was commenced in 1869 and the whole area is considered stocked, the estimated number of plants now existing being 323,000 and cost up to end of 1895-96 Rs. 2,540.

Here again I cannot regard the growth and prospects in so favorable a light as the late Inspector General, the fact being that though seedlings from dibbled seed come up fairly well at first they die off during the hot weather. It is impossible to distinguish between natural and artificially sown trees, but there are few of either between one and ten years old and prospects are not encouraging. The reserve is in charge of the Shanker Forester and two special watchers on Rs. 6 per mensem each are employed on it, which is absurd. Their services should be dispensed with and expenditure restricted to up-keep of the fence and dibbling seed at the proper season.

Hale Sorab is another sandal reserve about 2 $\frac{1}{2}$ miles north of Sorab. The area originally notified in 1892 was 100 acres and 55 acres have since been added. A trench has been dug round the reserve and dibbling operations carried on since 1890, recent enumeration showing about 9,500 as surviving. This reserve is situated in the midst of District Forest with heavy shade in places, in fact it is semi-evergreen and scarcely any natural sandal in the neighbourhood. The adjoining villagers strongly object to the reservation which should, I consider, be cancelled and the area allowed to revert to District Forest.

It has cost Rs. 1,760 up to end of 1895-96 and there is a watcher on Rs. 6 per mensem employed on it whose services should be at once dispensed with. I cannot understand how such an area was ever selected and treated as a sandal reserve when we have large areas of State Forest much more suitable for the growth of sandal in the neighbourhood.

The Revenue Plantations of Shimoga, Sagar and Shikarpur (Bhadrapur) must, I regret to say, all be classed as failures and abandoned or retained only as municipal gardens, the establishments employed on them debited to forests being dispensed with. They appear to have been started doubtless with the best intentions, but, without due consideration and knowledge of what to grow and how to grow it the tendency being to attempt to rear teak and exotic trees for which the soil, climate and rainfall are unsuitable. They have now degenerated into mere gardens and sinecures for watchers no less than 4 on Rs. 6 per mensem, each being employed on the Shimoga Plantation of 50 acres and 2 on Rs. 5 per mensem each on Shikarpur of 43 acres, the expenditure on those two up to end of 1895-96 having been Rs. 2,515 and Rs. 1,367 respectively.

Much the same remarks apply to the Kalenahalli Forest Department Plantation three miles from Shikarpur, on which the large sum of Rs. 7,800 has been expended up to end of 1895-96. It comprises 500 acres of which about 80 are classed as stocked with teak and gall-nuts, none of which will ever do any good. The teak are whippy and will never develop into good poles, still less timber, whilst the gall-nuts are dwarfs even those 4 or 5 years old being only straggling shrubs from one to two feet high. The nursery site is badly chosen and soil quite unsuitable. An establishment of a Mestri on Rs. 8 and two coolies on Rs. 6 and 5 per mensem was employed on this plantation whose services I ordered to be dispensed with and the area left to Nature being placed under charge of nearest patel with at most Rs. 2 per mensem to a village watcher to look after it.

I regret to have to animadvert strongly on the wasteful expenditure incurred on these so-called plantations without any good results and continued from year to year under the eyes of the Amildars, Forest Sub-Division and Range Officers and the District Forest Officer himself, who must have seen that they merely existed for the benefit of the men employed on them. The only excuse I can make is that their standard of success was too low from want of knowledge and opportunities of comparison and that they were not averse to the maintenance of the plantations as charitable institutions. I should mention that the so-called mahogany in Shikarpur (Bhadrapur) Plantation is not a Mahogany at all, but *sideroxylon inerme* a small evergreen tree introduced from the Cape and the so-called Red sanders not the *Pterocarpus santalinus* (Rakta chendana), but *Adenanthera pavonina* (Manjatte), the only similarity being that they are both *Leguminosæ*.

4. *Depôts*.—I inspected the timber depôts at Shimoga, Aynur, Siralkoppa and Shikarpur in which the stocks were very small, the annual supply not having been received from the forests. Transactions are however really on a very limited scale which I ascribe mainly to the bulk of the timber requirements of the inhabitants of the Shimoga district being supplied gratis or at reduced rates of seigniorage from District Forests under the special privileges vouchsafed to them. If we exclude teak railway sleepers under which upwards of Rs. 58,000 was realized in 1893-94 for 70,341 cubic feet, the total sales of all descriptions of timber and bamboos from the Shimoga depôt during three years ending with 1895-96 have aggregated only a little over 32,000 cubic feet, the annual average being approximately 10,780 cubic feet and 16,000 bamboos realizing Rs. 7,770. At Aynur the average annual sales have been 10,400 cubic feet realizing Rs. 6,500, at Siralkoppa 4,800 cubic feet realizing close on Rs. 3,000 and at Shikarpur 5,360 cubic feet realizing Rs. 3,846. The depôt establishments at Shimoga cost Rs. 32, Siralkoppa Rs. 18 and Aynur and Shikarpur Rs. 17 per mensem and it is doubtful whether the Shimoga establishment is justified, unless sleeper supply is resumed on any scale especially as the demand there would appear to be declining, whilst at Siralkoppa and Shikarpur it is on the increase. The matter should have the District Forest Officer's and Deputy Commissioner's attention and will be considered in connection with the revision of establishments generally.

5. *Kumris*.—From Talguppe I went to Arlagode and Mandavalli to inspect the Kumri or *Taungya* clearings and replantings in that neighbourhood. These villages are now rendered easily accessible by a good road which has recently been opened out to Mandavalli where there is a Police Station and travellers' bangalo and is I understand to be continued towards the coast *viâ* Badkal with probably a branch northward to Jôg. The clearings which I saw are situated at the head of ravines on steep and well drained hill sides with reddish loamy soil which had evidently been enriched by the decaying vegetation or *humus* before the forest was felled. The annual rainfall is said to be over 100 inches, but I doubt it from local appearances and must have it guaged and recorded. The natural growth was chiefly nandi (*Lagerstrœmia lanceolata*), taré (*Terminalia belerica*), jambe (*Xylia dolabriformis*), wild jack (*Artocarpus hirsuta*), and bagani (*Caryota urens*). The latter and all trees of the reserved class are not supposed to be felled, but as a matter of fact they either are or suffer so much from the burning and removal of their congeners that they die off. One piece of about 8 acres with an eastern exposure and at an elevation of nearly 2,000 feet is reported to have been felled in 1895 and cultivated with ragi (*Eleusine coracana*), this year it is sown with sámé (*Panicum*

frumentaceum) 400 teak seedlings raised in a nursery about a mile off in which the seed was sown in April, were planted out in July, when they are said to have been 2 to 3 inches high. If so, they must have died back as the few surviving were not more than 1 to 2 inches high in December and very sickly. They will almost certainly succumb during this hot weather.

On the opposite slope is another clearing of about 10 acres facing west opened in 1896 and sown with ragi which should, under the proposed system, be planted with seedlings this year along with *sámé*. The sites are supposed to be old abandoned kumris selected or approved by an Officer of the Forest Department which is to supply tree seeds to the "kumbis" (Kanara coolies) which they are to sow and water in nurseries and plant out with their final crop. Those are the conditions under which I gather from the records and District Officer, the resumption of kumri cultivation was sanctioned; but I regret to state that they exist only in name, there being no resident agency to enforce them. The forests in the Sorab taluk are nominally in charge of the Sub-Division Officer Mr. Monteiro, whose head-quarters are at Shikarpur and these ghat forests and kumris are placed under the Malendur Forester Venkoba Rao who lives upwards of 30 miles from Mandavalli beyond which the kumri clearings extend for miles to the west and south-west.

This is not the place to discuss the policy of sanctioning kumri clearing at all, but if it is to be under the pretext of cultural operations which the Inspector General of Forests in India would style "*arbori-taungya*" there must be an adequate staff supervised by an Officer of the Ranger's class at all events to initiate matters, select and mark off the areas in which alone it is to be permitted, apportioning them to the various villages or families of Kumbis, supervising the formation of nurseries, supply of seed, watering, planting out, weeding, &c., at all seasons including the monsoon.

Without all this, the experiment, if it can be called so, is bound to end in failure and even with it I greatly question its success.

The Kumbis are, I fancy, very different from the Karens of Burmah or the Kurubas of Mysore district being merely I find serfs or bondsmen of the Brahmains for whom they cultivate the adjacent kans or areca-gardens in return for their food. They may be capable of being made useful as forest servants in return for the privilege of cultivating kumri; but this is not likely so long as they are the servants of private individuals who doubtless monopolise any profit on the crops so reared. Moreover, if the planting of teak &c., were successful, the old kumris or other suitable sites would in a comparatively short period be stocked with young timber trees and re-clearing be put a stop to. The Kurubas in Mysore have been sharp enough to see this and I believe brought it to the Dewan's notice. This point appeared to me so material that I referred to Mr. Oliver, formerly a Conservator in Burmah and at present Director of the Forest School, with regard to it and learn from him that "the teak plantations in Burmah are not made in these "*Taungya* areas, but in the strictly reserved areas to which the villagers temporarily migrate for the special purpose of making plantations. Their own *Taungya* areas are generally included in the reserved forests and made over to the villagers who can thus prevent outsiders from settling in them."

They are in fact allowed to carry on *Taungya* or kumri cultivation pretty much as they like in areas set apart for the purpose on condition of their establishing teak free of charge in other areas along with a cereal crop for one or two years after which they have no further concern in them, their own areas being doubtless large enough to admit of a rotation sufficiently long for their purposes. Whether we can afford in Mysore to set aside areas under similar conditions is doubtful.

I am also doubtful whether teak, honne, bité and sandal will grow under the conditions obtaining in the localities I visited. The rainfall and elevation are it is true suitable for teak, but the sub-soil is I think laterite and there is an entire absence of the species and of the others just mentioned (which are those which have been tried) in the natural forests in the neighbourhood.

With a revision and increase of Range charges it may be possible to give the experiment a fair trial this year on a small scale and I have instructed the District Forest Officer accordingly, but am not very sanguine as to the results.

6. *Other General Questions.*—Amongst other general questions brought to my notice in connection with this district were the following :—(1) Complaints with regard to excessive reservation; (2) the grant of karimatti trees free for agricultural purposes; (3) grant of “Kans” for cultivation, and I heard petitioners and conferred with the local Revenue and Forest Officers regarding them.

As to excessive reservation the fact that the whole district (3,986 square miles) is more or less forest clad except where actually under cultivation and that the State Forests only aggregate 245 square miles, is a sufficient reply to the allegation.

With regard to the grant of karimatti (*Terminalia tomentosa*) free for agricultural purposes the only argument adduced which seemed to me of any weight were (i) that it is very plentiful and (ii) that it is impossible to prevent the people cutting it without permission if they do not get free licenses for it. But I must say that its being plentiful, as it undoubtedly is, is no good reason why people who can well afford to pay for it either on license from District Forests or by purchase from the Government depôts should get it free when the most liberal concessions with regard to other classified trees have already been made to them and I trust that the plea with regard to the impossibility of preventing the people taking it without permission, which was I think advanced by the Amildar of Sorab, may be no longer sustainable, when there are Forest Range Officers with moderate charges and ample establishments to protect the State Forests and assist the Revenue Officers in putting a stop to unauthorized felling in the District Forests. I see no reason to differ from the opinion of my predecessor endorsed by Government in Proceedings No. 4514-22—Ft. 282 of 6th November 1895 on this subject and hope to see a legitimate and steadily increasing revenue realised from this valuable timber tree which in any maidan district would be gladly purchased at double the rates ruling in Shimoga.

As regards the kans I see no reason for prohibiting or only allowing temporary cultivation in them which only leads to a loss of revenue and production and their gradual destruction. I would reserve them as State Forests whenever they are at the disposal of Government and grant leases in the Forest Department for their use for the growth of pepper &c., under conditions safeguarding the tree growth exactly as recommended with regard to the “Sholas” on the ghat forests of Hassan, Kadur and Shimoga applied for for cardamom cultivation. In the case of these kans a permanent lessee will have every inducement to protect and improve the tree growth and we will secure its retention for climatic considerations whilst developing production of useful products and a legitimate revenue to the State.

7. *Duties of Forest Range Officers.*—I was sorry to find the Forest Officers with the exception of the District Forest Officer, very supine about such general questions which they appear to consider beyond their province. Their chief care is of course the State Forests and Plantations, but all Range Officers worthy of their position should display an intelligent interest in all matters connected with forest administration in their ranges and be willing and able to assist the people and advise the District Revenue Officers with regard to them.

A more thorough knowledge of the forests and their products both major and minor, is very desirable, in connection with which I noted a great want of maps, even the Sub-Division Officer Mr. Monteiro having apparently none of his extensive and responsible charge.

Every forest subordinate capable of understanding it should have the best map available of the area under his charge not to keep in a box in his office or home, but for daily use and note of boundaries, description and condition of growth, &c., thereon.

The District Forest Officer had had a very useful District Forest map prepared by the Forest Surveyor, but there was only one copy. I am having others made by the Survey Department to supplement the topo sheets and taluk and village maps copies of which should be supplied to all Range Officers and Foresters for the areas included in their respective charges.

8. *Sandal Kothis.*—I inspected the Sandal Kothis at Shimoga and Sagar and was present at the annual auctions at both places.

The quality and assortment of the wood appeared to be good and give general satisfaction though bidding was dull. The kothi building at Shimoga is old and quite unsuited for the purpose and a new building is much required. That at Sagar was built for the purpose in 1892 at a cost of Rs. 38,000. It is well built and commodious, but the plan and general arrangement may, I think, be improved upon so as to meet the requirements of the home trade with regard to better protection of the wood, whilst under preparation so as to retain the essential oil and provide greater facilities for moving, storing and weighing the wood in the shape of trolleys, weigh-bridges, &c.

I did not visit the Tirthahalli kothi.

I took the opportunity of the Sagar auction to confer with the merchants and their agents with regard to the new classification introduced tentatively in the Mysore kothis this year and was glad to find it commended itself to them with some minor modifications which I arranged for. I also talked to them with regard to the adoption of standard English weights, against which they could adduce no valid objections.

I conferred with the District Forest Officer and Sub-Division Officer with regard to the collection and preparation of the wood which are susceptible of improvement. The difficulty is that owing to the heavy rains and consequent state of the roads during the South-West Monsoon, but little actual collection can be done till after September, which does not leave time for preparation before the sales in November and December of the large quantities. 750 tons tentatively fixed as the annual collection to be made in the three kothis of this district distributed as per margin.

With properly constituted Ranges and competent Range Officers, I think a good deal more wood can be prepared for sale in the same year as the trees are uprooted and the balance should be kept in the rough so as to decrease the loss of essential oil. As far as possible the Hassan plan of preparing the wood at centres under supervision instead of in the jungles should be adopted. Even if the cost is increased by carriage of white wood which cannot be sold as firewood as in Hassan, the advantage of securing careful preparation even of the small branches and decreasing the risk of fraud will probably compensate for it. I was disappointed at not finding more and better sandal trees in the Shimoga district especially in the more open portions and fear we may have to curtail the supply till satisfied that it is not in excess of the yield. But I am assured by the District Forest Officer that only really mature and back-going trees are collected and the growth of the species is so scattered that it is very difficult to arrive at anything approaching accurate conclusions during a comparatively brief inspection. Some of the finest young sandal I saw was on both sides of the new road from Talguppe and about 2 miles to the west of that place. This is all the more noteworthy as sandal is not frequent in that part of the district which verges on the ghats. The tracts were said to be either District Forest or gomal and are certainly worthy of special attention and protection in order to encourage and maintain the growth. I directed Mr. Monteiro's attention to the matter and should like to have the trees enumerated at an early date.

2. *District Forest Office*.—I inspected the District Forest Office and made the following notes:—

Shimoga District Forest Office inspected 14th December 1896.

Cash account.
Return of cheques issued.

... } Posted and despatched for October and that for November prepared and ready for signature exhibits in addition to cheques drawn and adjustments by working charges bills a cash balance statement showing the amount outstanding against Forest Subordinates and Amildars. Amount of unadjusted advances at end of November Rs. 6,223-11-1, of which Rs. 4,317-4-11 disbursed but unadjusted and Rs. 1,906-6-2 cash to be accounted for the largest amount outstanding against an individual being Rs. 2,063-5-2 against Mr. Monteiro as Sub-Division Officer Shikarpur, of which Rs. 1,284-4-11 is entered as disbursed but unadjusted, consists chiefly of advances made to subordinates.

In addition to the above, a return of
and other forest produce for the
No. 10 is prepared and submitted
to the Revenue Department for October
Ditto

Discontinued as per Inspector

Progress report, &c.

Progress report, &c.

Unanswered references

With Revenue Department for check and references,
Not seen.

Auction sale statement

A. List of stores, tools and plant

Not examined.

Auction sale statement

Not examined.

A. List of stores, tools and plant

Not examined.

Posted to end of September 1896.

B. Books

Ditto

These registers should be kept in bound leather
books to be supplied.

Forest offences reported and disposed of

Submitted by Magisterial Department quarterly
and annually in the Departmental report.

Office neatly kept and in good order.

The building, which is in every way suitable as regards situation and accommodation, was, I understand, specially built for and at the expense of the Police and Forest Departments and I would strongly deprecate any idea of our vacating it in favor of another department as has, I understand, been proposed more than once. The so-called forest bungalow on the other side of the bridge may, however, be transferred to any other department.

I also visited the sub-division Office at Shikarpur which is suitably housed and apparently in good order.

The advances to subordinates in the Sub-Division (Rs. 2,063) seemed rather high, the largest amount being Rs. 370 outstanding against the Sorab frontier Forester, but it was explained that they represented for the most part sums actually spent by Foresters and Sandal Manegars, but not adjusted pending actual delivery of the sandal, timber, &c, in depot which under the present system, is unavoidable.

Account current with Treasury. Old Form 28. Abstract.

Register of credits and payments made thereon.
Serial No. 106—a.Detail of transactions with District and Taluk
Treasuries not maintained in other
districts.

Posted as above.

Working charges bills	...	...	Submitted to end of October-ready for November.
Plantation progress return	...	...	Abolished.
Detailed contingent bill	...	...	No bill in October, that for November drafted and approved by District Forest Officer.
Officer's travelling allowance bill	...	...	No bill for October, that for November under preparation.
Establishment	ditto	Ditto	ditto

Stock Accounts.

1. Return of trees felled	...	...	Posted and submitted to end of October.
2. Logs, sleepers, &c., cut and exported	...	...	Combined in above.
3. Timber, &c., collected, sold and remaining at depots.	...	...	Posted and submitted for October, November under preparation.
4. Sandalwood, &c., collected, sold and remaining at depot.	...	...	Posted and submitted for October. November under preparation. Corrections in red ink should be initialled by District Forest Officer.
5. Minor forest produce	...	...	Included in No. 3. Not issued or maintained.
6. Licenses	...	...	Realizations shown in sale return, <i>vide</i> below.
7. Timber, firewood, &c., passed into towns	...	...	Not maintained. No such operation.
8. Live stock.	...	...	Nil.

Extra.

Revenue accounts	...	...	In addition to the above, a return of sales of timber and other forest produce for the district. Form No. 11 is prepared and submitted monthly.
Return of all sales effected &c.	...	...	Return submitted for October.
Demand, collection, and balance	...	...	Ditto

Miscellaneous.

Progress report, &c.	...	...	Discontinued as per Inspector General's Circular.
Unanswered references	...	...	With Revenue Department for check and references. Not seen.
Auction sale statement	...	...	Not examined.
A. List of stores, tools and plant	...	...	Posted to end of September 1896.
B. Books	...	...	Ditto
	...	...	These registers should be kept in bound leather books to be supplied.
Forest offences reported and disposed of	...	...	Submitted by Magisterial Department quarterly and annually in the Departmental report.

Office neatly kept and in good order.

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Subd. to Secty

7 TYSORE

The accompanying note by
the 3^d councillor making certain
suggestions on Forest matters
may be submitted to the 1st &
for information and orders.

30/6/97

Yes Q

Suled bcc-2/7/97

1st Q.

Served Q

than send
me a Jan 9th
of the 3^d councillor
remarks - I found
it rather difficult
to read his report and
he says the his
copies may be
checked on
up! K. K. K.
cases. This need

not delay upon
of revision - under
he wishes to make
any action or allow
from of the paper
2/7/97

Free

This may be placed
before next week's
Council if as I believe
copies were sent to the
Dewan & 2^d for info
back as the 7th Union

2/7/97

Facsimile of 3 Councillors' remarks
on the

(7133)

Forest Administration Report for the year
ending 30th June 1896.

Added to 1st of
as received

3/7/97

Page 2. Para 9. Please send me copies of the
Conservator's notes. In future notes may be sent

In continuation as soon as issued.

at the next

meeting of Council

AP

3/7/97

Page 5. Bickody jungle - A valuable portion
was sold for Coffee cultivation. References
appear to have been called for. I wish to see
the papers. As in the case of Toddy groves and
Tracts, it seems very necessary to register all
Sandal tracts in the Province and reserve
them for Government by framing a rule
against giving any part of them for cultivation
or otherwise, without the special sanction of Govern-
ment.

Page 6. Kolar - This district has ^{some} ~~been~~ Mairdan
jungles as distinguished from ^{dense} ~~Reserve~~ Forests of
Malnad. The case with other Mairdan jungles is
more or less the same. To cut the demarcation
lines

lines to the standard width in these narrow
and ~~these~~ ^{thin} maidan jungles is simply to ~~demarcate~~ them
so much. It is worthy of attention to reduce the
width of the demarcation lines to bare necessity.

Para 17. The cutting of demarcation lines by paid
labour especially in places where the cut wood
is of little value either as timber or fuel, is
not at all a desirable thing to do. Neighbouring
ryots may be encouraged to cut them under
best possible arrangements suiting local circum-
stances. Arrangements of this kind alone will
minimise the cost of demarcation lines.

Page 15. Para 30. Such valuable grazing tracts
in the Province may well be marked and made
over to the Forest Department for management
of Kullubanni or Taluk Amildars may manage
them with the help of the local Forest Officer.

~~The~~ ^{the} Malnad Kucha gowlies ~~to~~ do abound in Forest
for grazing and willingly pay fair rates for it.
The revenue under this head is quite susceptible
of

of improvement.

Para 18. Para 40. In most places firewood is removed by ryots and others for sale within and without the Province without paying any fees to Government. It is high time that the supply thus taken away by the people for their own advantage should be duly charged. In Madras I believe even the head loads have to pay the fixed fee. When our people for the most part get fuel for home use free, it is quite fair that ^{they} should pay the fee that may be prescribed on fuel removed for sale. The Conservator may be requested to send up proposals in this regard after consulting the local Forest and Revenue Officers.

Page 22. Bamboo should be freely and largely given out under the license system, with rates varying according to the local demands and circumstances, and saved as far as practicable from natural decay or jungle fires. Departmental collections and sales are generally very costly besides being insufficient. The revenue under this item is capable of great development as
observed

Observed by the Conservator.

Page 26. Para 56. The success of the departmental collection and sale of Minor Forest Produce will chiefly depend on the expenditure incurred on the process. It would be well if the expenditure is shown side by side the realization by sale in future reports.

Page 27. Para 58. The Conservator may be called ~~for~~ to forward his proposals in detail, as the subject is one that requires remedy as ^{early} ~~soon~~ as possible.

Page 29. Para 62. The adjustment of the balance complained of by the Conservator may be expedited.

Already effected

Bangalore }
9th June 1897 }

Exhibit from the Council Proceedings
Dated 16th July 1897

X X X X

That the Reviews of the following
Administration Reports for 1895-96 as
revised in Council, be passed and issued:

(1) Forest Department

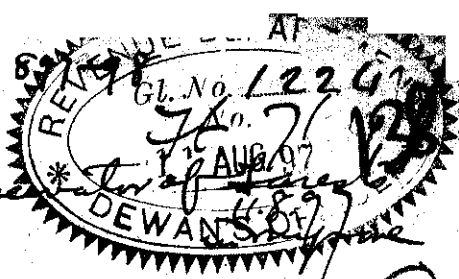
X X X X

Copy for Forest Bo
Charles Lambton
Under Secy

To,

The Forest Department

SECTION 71
 FILE No. 29796
 SERIAL No. 8



From the Case of the Secretary to Government,
General and Rev: Departments.

Dated 9th August 1897
 Despatched No 866 E: 6.
46

Subd 7
14-8-97

6881
 Please see my notes
 within. Submit to
 Dewan -

14/8/97

Subd to Dewan Q.
16/8/97

Submitted draft
17/12/97

Submitting six copies of
 inspection notes of Mysore
 district.

1. copy to 3rd Committee
1. " " File
- 4 copies in reserve

13/12/97

noted & filed
13/12/97

This may be filed
 Sealed to office Dewan

8100
16/12/97
 Read & discuss with
 the other members of
 the committee of
 Mysore & submit a copy to
 the Dewan Q.

Subd. with references. These notes
 were called for by the 3rd Com.
 Please see Serial No. 5.

13/8/97

Office
 Submit such notes to
 the 1st Com. in the first in-
 stance, & after release from
 him submit a copy to
 the 3rd Com. -
14-8-97

OFFICE OF THE
CONSERVATOR OF FORESTS IN MYSORE.

Rev. Forests.

No. $\frac{866}{46}$ E: 6

Dated 9th August 1897.

From

COLONEL I. CAMPBELL WALKER,
Conservator of Forests in Mysore.

To

The Secretary to the Government of Mysore,
Gen. and Rev. Departments.

SIR,

In continuation of this office No. 5284
369
dated 24th June 1897, I have the honor
to submit 6 copies of my Memo of Inspection
of the Mysore District, from 28th De-
cember 1895 to 1st January 1896.

I have the honor to be,

Per,

Your most obedient servant

W. J. J.

For Conservator of Forests
in Mysore

W. J. J.

Sl. No. (6)
Memo of Inspection
of Mysore District
from 28th Dec-
ember 1895 to
1st January 1896

Draft for appl
1897 *Wm* 140

SECTION <i>74</i>
FILE No. <i>29 of 96</i>
SERIAL No. <i>9</i>

From

The Secretary to the
Government of Mysore,
Gen. & Rev. Depts.

To The Conservator of
Forests in Mysore
31st Sept
to August.

Dated *30th March 1897*

Despatched

Received *✓*

General No. *2440*

H. F. No. *29-96*

Enclosure No. *50 copies.*

Has the honor to forward
herewith 50 copies of the review
on the Forest Administration
Report of Mysore for 1895/96.
for being pasted with the copies
of the reports required for
distribution among the Forest
Officers and to request that
the remaining ~~part of the~~ copies of the
report ~~still with him~~ may be forwarded
to this office for distribution and
record

By Order

W 8/8/97

Secretary
Wm

CS

SECTION 4
FILE NO. 29 of 96
SERIAL NO. 10

11 SEP 97
The Comptroller
in Mysore

Registrar Chief Court. --- 1
Inspector of Police --- 1
Education --- 1
Registration --- 1
Prisons --- 1
Secretary P.W.D. --- 1
Muzammi Subj. --- 1
Subj. Insurance --- 1
Military Assistant --- 1
Palace Controller --- 1
Government Advocate --- 1
Supt. of Amrut Mahal --- 1
Comptroller in Mysore --- 1
Senior Surgeon --- 1
Supt. Rev. Surgery --- 1
Muzammi Subj. --- 1
Govt. Prep. --- 1
Garment --- 1
Museum --- 1
Excise Comptroller --- 1
Director Archaeological --- 1
Examiner P.W.D. --- 1
State Ecologist --- 1
Sanitary Engineer --- 1
Councillors --- 3
Dist. Judges --- 3
Subj. --- 1
A. Subj. --- 1
C. Pristankarwarre Eng. Subj. --- 1
H. H. Chintamani --- 1

The Secretary to Government,
General and Revenue Department

Dated
Despatched } 8th September

No. 1449 L. on
74/56 Admin. Repor

Forwarding 56 fifty six copies
of Forest Administration Report
for 1895-96 -

Rev 10/9/97

subd with refer.

11/9/97

OFFICE OF THE
CONSERVATOR OF FORESTS IN MYSORE.

Rev. Forests.

No. 1469 21 & 56 copies Dated 8th September 1897

74
of Administration Reports -

From

COLONEL I. CAMPBELL WALKER,
Conservator of Forests in Mysore.

To

The Secretary to the Government of Mysore,
Gen. and Rev. Departments.

SIR,

Referring to your docket no. 2440
70-7. 29. 96
of 31st ultimo, I have the honor to state
that as usual 120 copies of the Forest —
Administration Report of Mysore for
1895-96 were printed, of which 6 copies
have been already submitted to Govern-
-ment with this office no. 3821
283 of 17th April
last and 8 copies also distributed among
the Deputy Commissioners of Districts —
which distribution is usually made
by the Government office. Deducting
these 14 copies, 56 copies are herewith submitted

142

2. I beg to submit for information
of Government a list of administration
to whom copies of Mysore Forest administration
Reports are usually distributed
by this office.

I have the honor to be,
Sir,
Your most obedient servant

Subbaya

For Conservator of Forests
in Mysore

Enc

Enc to sl 10

143

List of Administrations to whom copies of Mysore
GOVERNMENT OF MYSORE
Forest Administration Reports are distributed.

No of copies

- 2 The Under Secretary to the Government of Bombay -
- 2 ————— of Madras.
- 2 The Secretary for Bezar to the Resident in Hyderabad.
- 2 The Secretary to the Chief Commissioner of Assam.
- 2 ————— Coorg.
- 2 The Secretary to the Government of North West Provinces and Oudh.
- 2 The Revenue Secretary to the Government of Panjab.
- 2 The Revenue Secretary to the Chief Commissioner of Burma.
- 1 The Agent to the Governor General and Chief Commissioner,
Baluchistan.
- 1 The Superintendent of Forests, Jeypore State.
Rajputana -
- 1 ————— godhpore state, Rajputana.
- 1 The ~~Revenue~~ Secretary to the Chief Commissioner of Ajmere,
Marwar.

20 copies.

W. H. P. S.

For Conservator of Forests
in Mysore.

W. H. P. S.

Draft of *suppl*

189

144

From

The Secretary to the
Government of Mysore,
Gen. & Rev. Depts.

SECTION	<i>71</i>
FILE No.	<i>29796</i>
SERIAL No.	<i>11</i>

The Superintendent
Govt. Central Press
Bangalore

Dated

18th October 1897

Despatched

18

Received

General No. *3578*

707 No 29-96

Enclosure No. *57*

Has the honor to forward herewith *54* copies of the Forest Administration Report of Mysore for 1895/96 and to request that ^{copies of} the ~~above revision thereon~~ ^{may be pasted} ~~and~~ ^{may be pasted} and ^{sent to this office} ~~copies returned~~ at an early date.

By Order

* only 54 copies available

Draft

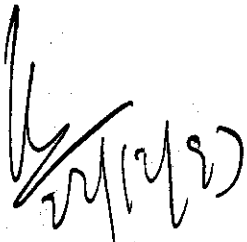
12/10/97

In Secretary

83
7/10/97
CS

reference ^{should} ~~must~~ be
made to Government
by the Conservator of
Forests.

203
20/12/97


for Secretary

To The Conservator of
Forests in Mysore.

C.S.

Draft for approval 145
as per orders of Depy Secy

(10)

SECTION	<u>7K.</u>
FILE No.	<u>29996</u>
SERIAL No.	<u>12</u>

Read.

Letters No. $\frac{5284}{369}$ and $\frac{866}{46}$

dated respectively the 24th
June and 9th August 1897.
from the Conservator of
Forests in Mysore submitting
copies of ~~his~~ ^{his} ~~his~~ Inspection
Notes.

✓
no. 5736
H.F. 19-96 27/2.97
27

Order thereon

Recorded with
the observation that if
orders of Government
are required on any
points referred to in
the Inspection Notes a
separate and special

Sl 11. To the Superintendent, Govt. Press.

No. 3598
H. 29-96 D/ 18-10-97

Forwards 54 copies of the Forest Administration Report of Mysore for 1895-96 and requests that copies of Govt. reviews thereon may be pasted therein.

Sl 12. To the Conservator of Forests in Mysore

No. 5136
H. 29-96 D/ 27-12-97

Records with the observation that if orders Govt. are required on any points referred ~~therein~~ in the Inspection notes, a separate to of special reference should be made Index by the Conservator of Forests.

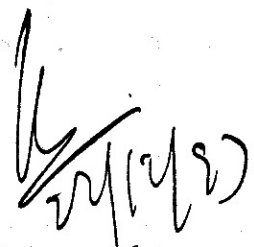
B. H. Narasimha Iyengar.

Received
1/5/14

146

reference ^{should} ~~must~~ be
made to Government
by the Conservator of
Forests.

88
20/12/97


for Secretary

To The Conservator of
Forests in Mysore.

C.S.